TRAINING REPORT

Project report submitted in partial fulfillment of the requirement for the degree of Bachelor of Technology

In COMPUTER SCIENCE ENGINEERING

Under the supervision Of

Cognizant

By:-
Ritvik Chauhan

171324

Department of Computer Science & Engineering and Information Technology

Jaypee University of Information Technology Waknaghat, Solan-173234, Himachal Pradesh

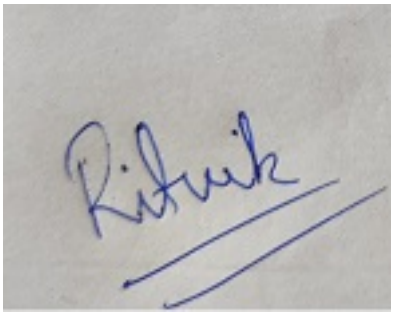
Project Report Undertaking

I **Ritvik Chauhan**, Roll No.: **171324** , Branch- **Computer Science and Engineering** is doing my internship with **Cognizant Technology Solutions** from **1st April 2021** to **11th June 2021**.

As per procedure I have to submitted my project report to the university related to my work that I have done during this internship.

I have compiled my project report. But due to COVID-19 situation my project mentor in the company is not able to sign my project report.

So I hereby declare that the project report is fully designed/developed by me and no part of the work is borrowed or purchased from any agency. And I'll produce a certificate/document of my internship completion with the company to TnP Cell whenever COVID-19 situation gets normal.



171324

22 May, 2021

Acknowledgement

I am grateful to all members of the Computer Science Department, Jaypee University of Information Technology, and Cognizant for their guidance and continuous oversight while supplying required data for the project, as well as their assistance in completing the project. I'd also like to thank **Dr. Vivek Sehgal**, Senior Grade Assistant Professor, as the project Supervisor, and my **technical instructors** from **Cognizant** for their kind cooperation and support, which helped me complete this project and for giving us such focus and time.

DESCRIPTION OF THE COMPANY

Cognizant

Cognizant is a multinational American corporation that offers management consultancy, information processing, and outsourcing services.

Its headquarters are in Teaneck, New Jersey, USA.Cognizant is a global leader in professional services, changing clients' market, operational, and infrastructure structures for the modern age. LinkedIn ranked Cognizant second in India in its 2021 rankings. According to LinkedIn, the Top Companies are engaging in workforce success, job creation, equality and inclusion, and diversity and inclusion to ensure that they remain among the best workplaces for employee growth now and in the post-pandemic environment**.**

DESCRIPTION OF THE COURSE

- Understand how Agile Implementation are done in Software Projects
- Illustrate the different phases of the Functional Testing Life Cycle for a given business requirement
- Understand SQL and perform basic Database operation utilizing the MySQL servers Learn how to design a database and analyze data using normalization and relationships.
- XML/JSON file creation and parsing using UFT automation tool and VBscript
- Learn the fundamentals of VBScript concepts, which are required for UFT automation

Contents

Project Report Undertaking……...ii

Acknowledgement……...iii

Description Of the Company……..iv

Description Of the Course……...v

Chapter 1: Introduction

1.1 About the Training.……...….1

1.2 Technologies Overview…….2

Chapter 2: Software Testing

2.1 Manual Testing……..4

2.2 Agile Testing…...……..5

2.3 Functional Testing……..……5

2.4 Automation Testing……...6

2.5 Performance Testing……..7

2.6 API Testing……....7

2.7 Mobile Testing…… .7

2.8 Test Case……....7

2.9 BlackBox testing……10

2.10 Summary and Learning……11

Chapter 3: Datasource

3.1 Introduction…….12

3.2 SQL Fundamentals……...……...……13

3.2.1 SQL Statements……....14

3.2.2 SQL Joins……..…….....15

3.3 XML……..…….16

3.3.1XML File....……...17

3.4 JSON……..17

3.4.1 Syntax……..17

3.5 Summary and Learning……..18

Chapter 4: VbScript

4.1 Introduction…….....22

4.2 VBscript history and uses…….……..…..…….22

4.2.1VBscript Syntax…….....23

4.2.2Declaring Variable…….……24

4.2.3Declaring Constants….……..……24

4.2.4Decision Making……...…….24

4.2.5Loops……..25

4.2.6Strings…….……..……..25

4.2.7Array……..…….……26

4.2.8Functions……. ……...……...26

4.2.9 RegularExpressions…….……..….……..28

4.3 Summary and Learning……...……..29

Chapter 5: Conclusion

References……34

Chapter 1

Introduction

1.1 About the training

The training commenced on 1st March,2021 and is expected to finish by 11th June,2021. A learning path has been laid by Cognizant for the trainees and the learning path for HC Facets has been designed as per the industry standard requirement for this role. The duration of training for UFT batch is 9 weeks. After the completion of training an end test will be organised by Cognizant for the rollout of Full Time Employee role.

In the training students are expected to go through various Udemy Courses along with the content being taught by the Technical instructor and the mentor. A set timeline has been shared by the company mentioning objectives for each day. Each day we are expected to complete sections from the Udemy courses, then based on these sections daily assignments called as Hands-on needs to be completed.

By the end of every week, we need to attempt an assessment which opens only when the objectives for the week are fulfilled. The assessments are of two types- Code Challenge (CC) and Integrated Capability Test (ICT). In both these assessments passing marks are 70, below this the student has failed a particular assessment. Both these assessments are proctored. CC can be attempted only once i.e., there's no retest in case a student score below 70. In case of ICT, we have two chances. Weightage of ICT is the highest followed by CC and then hands-on.

1.2 Technologies Overview

The HC facets require UFT or Unified Functional Testing software to do testing for various products related to healthcare .Therefore we are trained in topics like SQL, VBscript, XML and JSON.

Overview of technologies used:

- Agile Methodologies & Phases STLC
- Basics of Automation Concepts
- Datasource
- SQL
- XML
- JSON
- VBscript Programming

CHAPTER 2

SOFTWARE TESTING

Basic concept of software testing :- Code testing is essential because if there are any glitches or defects in the software, they can be captured early and fixed before the software product is delivered. A well-tested software product guarantees reliability, security, and high performance, which saves time, money, and improves customer satisfaction. Software bugs can be costly or even harmful, so testing is important. Software bugs have the ability to cause monetary and human losses, and there are many examples throughout history.

- Windows 10 vulnerability Via a loophole in the win32k system, this bug allows users to bypass security sandboxes.
- In 2015, the F-35 fighter plane suffered from a technical error that made it unable to identify targets accurately.
- On April 26, 1994, a software error caused China Airlines' Airbus A300 to crash, killing 264 people.
- In 1985, the Therac-25 radiation therapy unit in Canada malfunctioned due to a programme glitch and administered fatal radiation doses to patients, killing three people and seriously injuring three others.
- In April 1999, a technical error triggered the collapse of a $1.2 billion military satellite mission, making it the most expensive crash in history.
- In May 1996, a technical error charged the accounts of 823 clients of a large U.S. bank with 920 million US dollars.

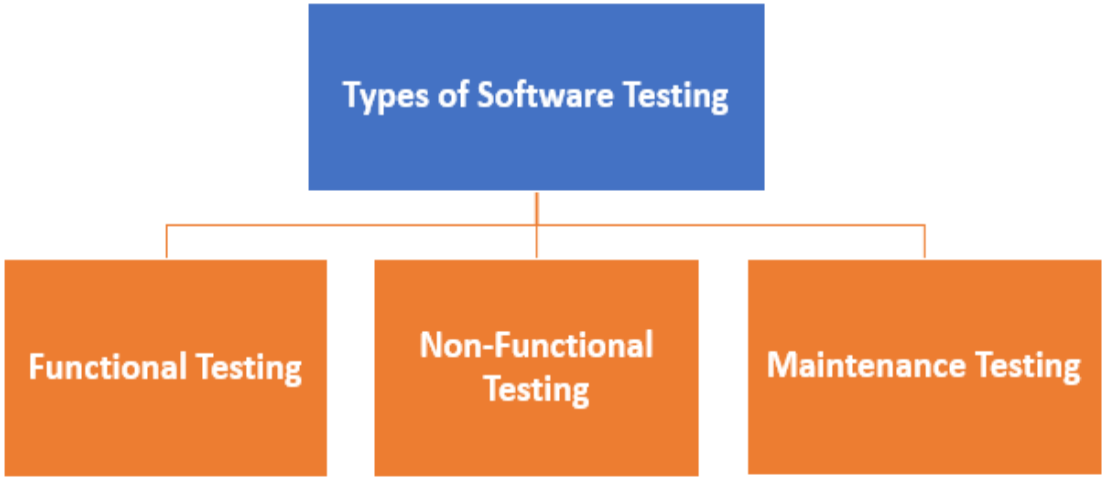


Figure 1. 1 Functional Testing types

Testing is done so as to evaluate system along with entities or components and check whether that system is satisfying particular requirements or not. The basic purpose of doing testing is to find out errors, gaps, and any missing requirements when compared to the actual needed requirements. If testing is done in the early stage, it will save both cost and time. This testing process is not a time-consuming process. The productive activity in the testing phase is to diagnose and fix bugs or errors that occur in the system. There are many features of a software such as portability, reliability, usability, functionality, etc. and the aim of testing any software is to determine these properties or features.

2.1 Manual testing

Manual testing is the method of verifying the performance of a programme in accordance with the needs of the user without the use of automation software. We don't need any technical knowledge of any research method to do manual testing on any application; we just need a good understanding of the product so we can quickly plan the test paper..

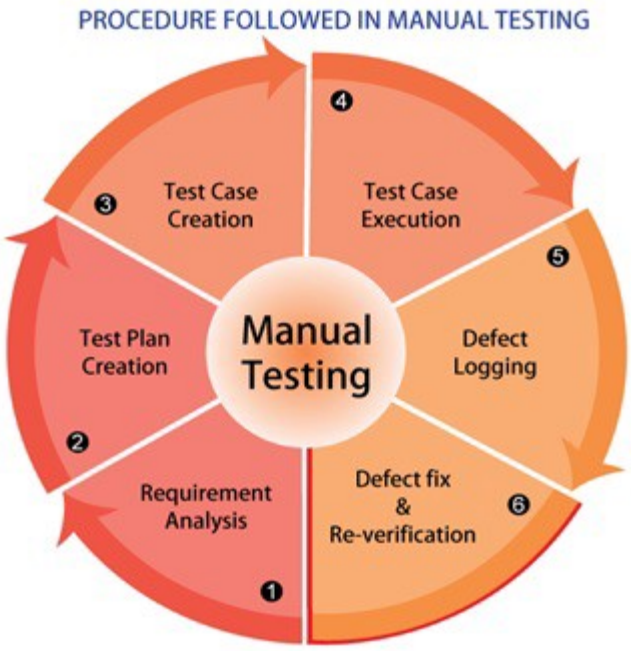


Fig.1.2

2.2Agile Testing

In this testing, agile development is followed in which incremental approach is designed and used for testing. This testing is done when the features of a software are developed.

2.3 Functional Testing

In this testing. each function of a particular software application is verified with the specified requirements. This testing is only concerned with the functions of a software and is not at all concerned with the source code. Test input is used in this type of testing for testing the functionality of the software. This testing aims to check user interface, security, client and server application and functionality of s software that is under test phase.

2.4 Automation Testing

In this type of testing, tester makes use of an automation tool for testing any software. Tester first writes its own script and uses only that script which will be suitable for testing the software. In this testing, repetitive

task is performed and implemented without making use of a manual tester. So, we can say that in this testing only automated tools are used and no human intervention is there. This type of testing is faster and more reliable than manual testing. Test cases that are used in this testing is not complex and requires less maintenance.

Fig 1.3

2.5 Performance Testing

This type of testing is also known as Perf Testing. This testing analyses quality and capability of a software. In this testing, the main aim is to check whether the software applications are performing and functioning properly or not. In this testing, performance of a particular software is determined in terms of stability, sensitivity and reactivity. The main use of this testing is for removing any performance congestion and it also focuses on enhancing the software before its complete development.

2.6 API Testing

Application Programming Interface (API) comprises of protocols, tools and routines set and specifies how different components are interacting with each other. This type of testing is performed for API collection that is to be tested. This testing verifies the behaviour of API by considering conditions like files and other peripheral devices. In this testing, requirements are checked such as security, performance, and functionality.

2.7 Mobile Testing

Mobile testing is the practise of testing applications for portable mobile devices for reliability, usability, and accuracy. Mobile device monitoring can be either automatic or manual. Mobile testing is a requirement of all product development processes before an app is submitted to the public. This move guarantees that the finished product works well during the customer service journey.

2.8 Test Case

It is a sequence of actions performed to validate a certain feature or capability of your software application. A Test Case includes test steps, test results, preconditions, and postconditions created for a particular test scenario to validate any prerequisite. The test case contains complex variables or parameters that a research engineer may use to measure predicted and real outcomes to assess whether a software product is working as per the customer's specifications.

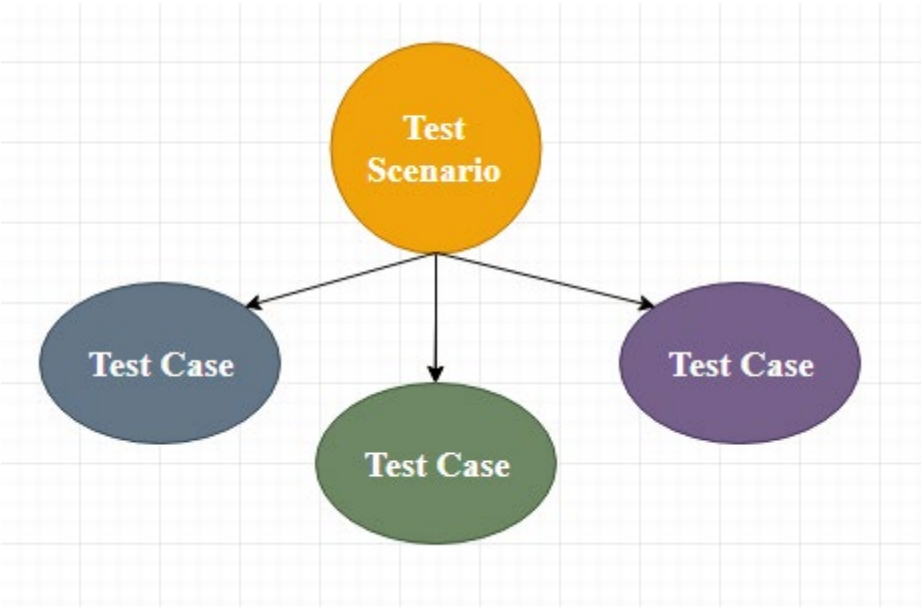


Fig1.4

It is a detailed text that includes all potential feedback (both positive and negative) as well as the navigation measures that are used during the test execution phase. Writing test cases is a one-time attempt that can be reused in the future during regression testing.

A test case contains specific details about the testing strategy, testing procedure, preconditions, and planned performance. This are carried out during the testing period to determine whether or not the software programme is fulfilling the purpose for which it was designed.

The test case assists the testing engineer in defect reporting by associating the defect with the test case ID. Detailed test case analysis acts as a full-proof guard for the research team, and if the developer omitted anything, it may be discovered during the execution of these full-proof test cases.

To note the test case, we must first provide the conditions to extract the inputs, and the test scenarios must be written such that no functions for testing are overlooked. Then, to ensure consistency, we should provide a test case template, or any test engineer should use the same methodology to plan the test paper.

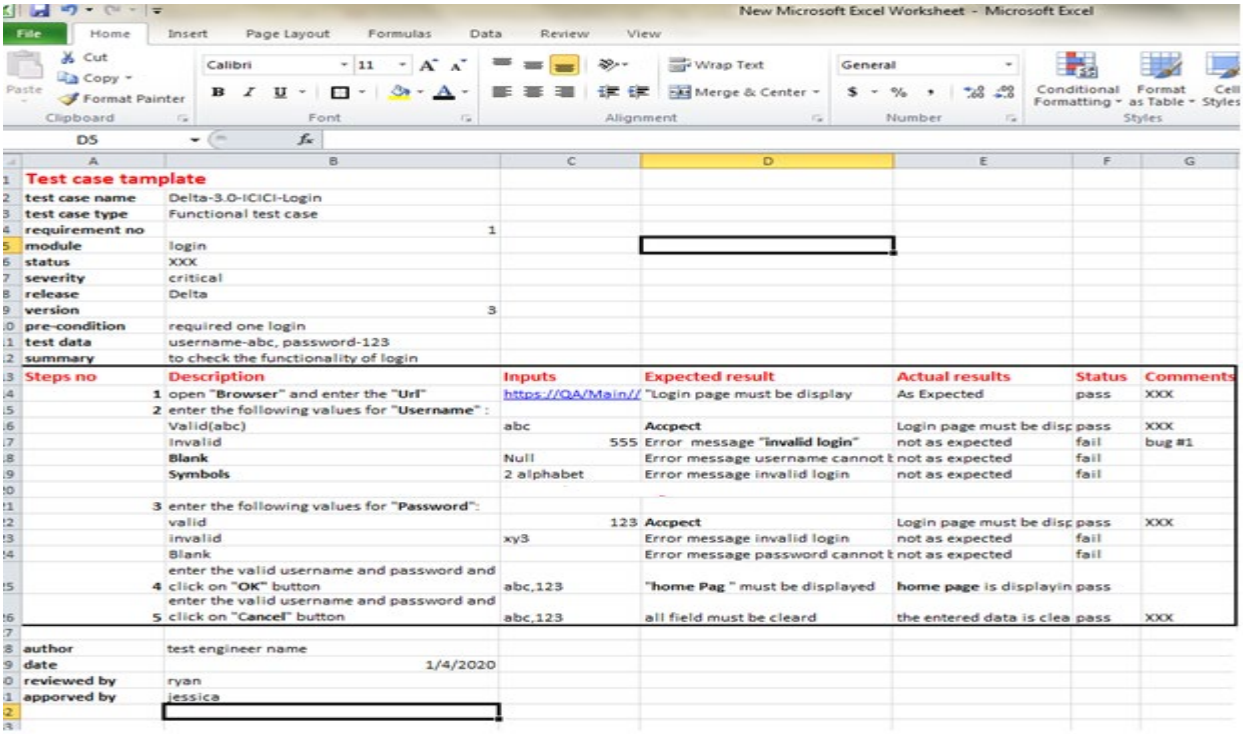
In general, we can write the test case whenever the developer is working on the script.

The exam will be written for the following reasons:

o To require accuracy in the execution of test cases o To ensure greater test coverage

o It is dependent on the procedure rather than on an individual o To stop training on the product with any new test engineer

Test Case Template:-



Test case tamplate						
test case name	Delta-3.0-ICICI-Login					
test case type	Functional test case					
requirement no	1					
module	login					
status	XXX					
severity	critical					
release	Delta					
version	3					
pre-condition	required one login					
test data	username-abc, password-123					
summary	to check the functionality of login					
Steps no	**Description**	**Inputs**	**Expected result**	**Actual results**	**Status**	**Comments**
1	open "**Browser**" and enter the "**Url**"	https://QA/Main//	"Login page must be display	As Expected	pass	XXX
2	enter the following values for "**Username**" :					
	Valid(abc)	abc	**Accpect**	Login page must be disp	pass	XXX
	Invalid	555	Error message "**invalid login**"	not as expected	fail	bug #1
	Blank	Null	Error message username cannot b	not as expected	fail	
	Symbols	2 alphabet	Error message invalid login	not as expected	fail	
3	enter the following values for "**Password**":					
	valid	123	**Accpect**	Login page must be disp	pass	XXX
	invalid	xy3	Error message invalid login	not as expected	fail	
	Blank		Error message password cannot b	not as expected	fail	
4	enter the valid username and password and click on "**OK**" button	abc,123	"**home Pag** " must be displayed	**home page** is displayin	pass	
5	enter the valid username and password and click on "**Cancel**" button	abc,123	all field must be cleard	the entered data is clea	pass	XXX
author	test engineer name					
date	1/4/2020					
reviewed by	ryan					
apporved by	jessica					

Fig1.5

2.9 Black Box Testing

Black box testing is a software testing methodology that tests software features without peering at its internal configuration or code. The primary source of black box research is a customer-specified condition specification.

In this approach, the tester selects a function and provides an input value to evaluate its features, and then determines whether or not the function produces the desired output. If the algorithm returns right results, it passes testing; otherwise, it fails. The research team reports the results to the production team before moving on to the next feature to test.

Still serious bugs persist even after checking all features, it is returned to the production team for correction.

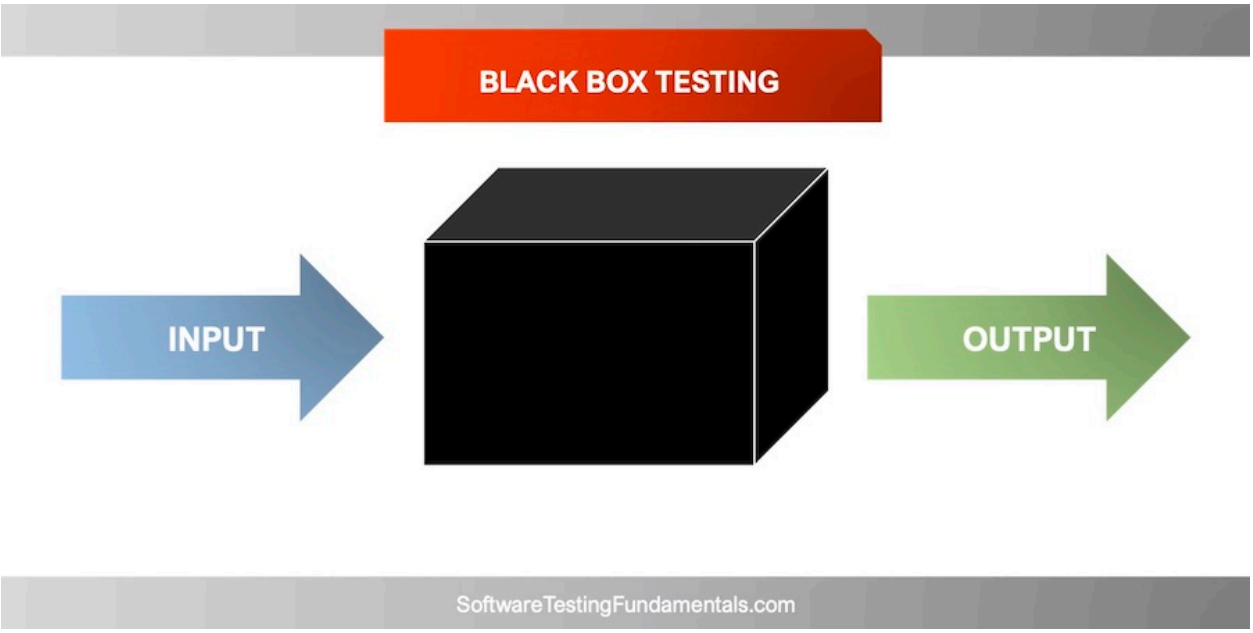


Fig1.6

2.8 Summary and Learning

The technologies mentioned in this chapter were a part of week 1 of the complete HC Facet with UFT learning path. I not only got theoretical knowledge during this period, but also solved various assignments and tasks regularly to gain hands on experience of what I learned in this time period.

During this time period I learned the testing technologies and at the end was given two hands on exercises to write test cases for different scenarios for a given website. I successfully identified the test scenarios and wrote well formed test cases to correctly check the application's working. Here is the snapshot of the grading for my submission.

Submission status

Submission status	Submitted for grading
Grading status	Graded
Last modified	Sunday, 28 March 2021, 11:19 PM
File submissions	hands-on(student enquiry).xlsx 28 March 2021, 11:19 PM
Submission comments	Comments (0)

Figure 1.7: Grading of testing assignment.

Chapter 3

Data Source

3.1 Introduction

In the context of information science and computer applications, a data base is the location from which data is retrieved. The main data point in an information management system is the database, which may be on a disc or on a remote server. A computer program's data base may be a disc, a data sheet, a database, an XML file, or even hard-coded data inside the programme.

3.2 Understand SQL and perform basic Database operation using the MySQL database

SQL is a database computer language that is used to retrieve and manipulate data in relational databases. SQL is an abbreviation for Structured Query Language. This tutorial will provide you with an introduction to SQL. It covers the majority of the topics needed for a basic understanding of SQL and a sense of how it functions.

SQL Applications

As previously said, SQL is one of the most commonly used query languages in databases.

I'll mention some of them here:

- Provides customers with access to data stored in relational database management systems.
- Provides consumers with the ability to identify the results.
- Allows users to identify and access data in a database.
- Enables embedding within other languages via SQL modules, libraries, and pre-compilers.
- Allows users to construct database views, stored procedures, and features.
- Enables users to assign rights to tables, protocols, and views.

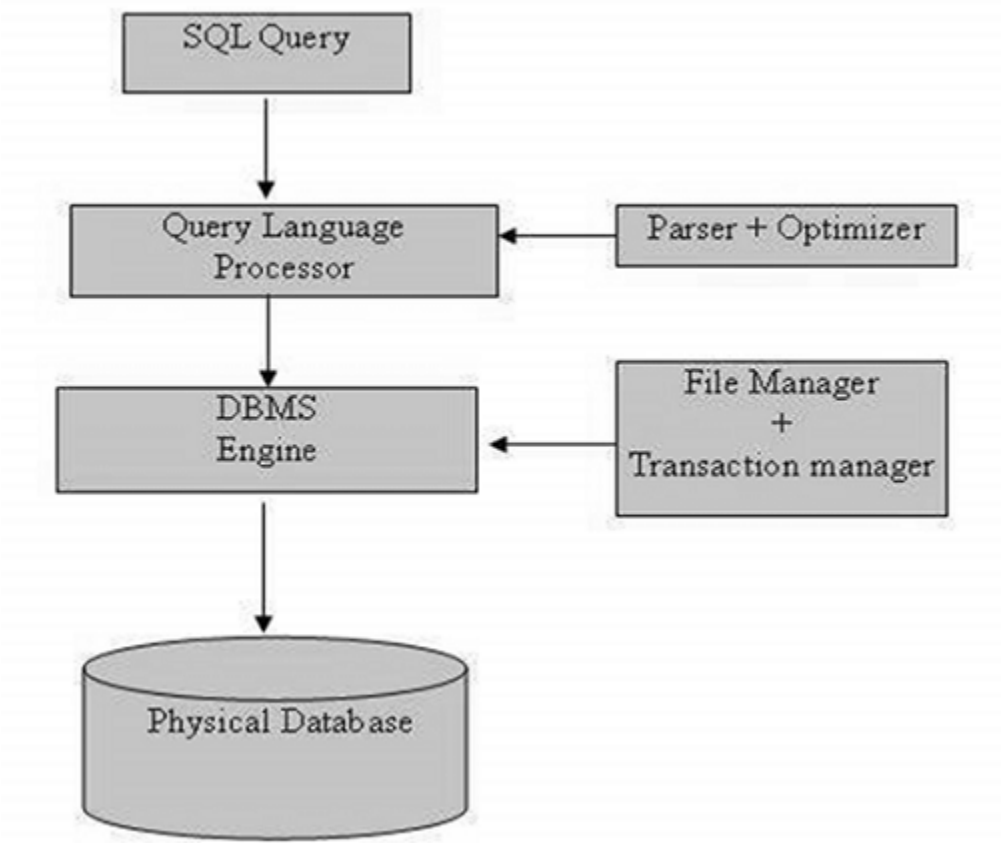


Fig 2.1

3.2.1 SQL Commands

CREATE, Choose, INSERT, UPDATE, DELETE, and DROP are the basic SQL commands for interacting with relational databases. Based on their existence, these commands can be divided into the following groups:

The basic SQL commands that are most commonly used are:

- **DDL** - Data Definition Language includes the following commands:

  Create: Used for creating a new table in a database.

  Alter: Used for modifying an existing table.

  Drop: Used for deleting an entire table.

- **DML** - Data Manipulation Language includes the following commands:

  Select: Used to retrieve particular records from a table.

  Insert: Used to insert a row into a table.

  Update: Used to modify the entries in a table.

  Delete: Deletes a record from the selected table.

- **DCL** - Data Control Language includes the following commands:

  Grant: Allows to user to do something.

  Revoke: Takes back the right from the user.

3.2.2 SQL Joins

Join statement in SQL is used to combine data from two or more tables using values that are common among them. The commonly used Joins are:

- Inner join
- Left join
- Right join
- Full join
- Most commonly and frequently used join statement in SQL is Inner join which is also known as Equijoin. In this Inner join, using join-predicate values of two tables are combined to form a new table. The example of this join is given in Figure. Where Table 1 and Table 2 are considered on which Inner join have been executed to create a new Table.

ID	NAME	AGE	ADDRESS	SALARY
1	Ramesh	32	Ahmedabad	2000.00
2	Khilan	25	Delhi	1500.00
3	kaushik	23	Kota	2000.00
4	Chaitali	25	Mumbai	6500.00
5	Hardik	27	Bhopal	8500.00
6	Komal	22	MP	4500.00
7	Muffy	24	Indore	10000.00

Fig 2.2

```
+-----+---------------------+-------------+--------+
| OID | DATE                | CUSTOMER_ID | AMOUNT |
+-----+---------------------+-------------+--------+
| 102 | 2009-10-08 00:00:00 |           3 |   3000 |
| 100 | 2009-10-08 00:00:00 |           3 |   1500 |
| 101 | 2009-11-20 00:00:00 |           2 |   1560 |
| 103 | 2008-05-20 00:00:00 |           4 |   2060 |
+-----+---------------------+-------------+--------+
```

Fig 2.3

```
SQL> SELECT  ID, NAME, AMOUNT, DATE
   FROM CUSTOMERS
   INNER JOIN ORDERS
   ON CUSTOMERS.ID = ORDERS.CUSTOMER_ID;
```

```
+----+----------+--------+---------------------+
| ID | NAME     | AMOUNT | DATE                |
+----+----------+--------+---------------------+
|  3 | kaushik  |   3000 | 2009-10-08 00:00:00 |
|  3 | kaushik  |   1500 | 2009-10-08 00:00:00 |
|  2 | Khilan   |   1560 | 2009-11-20 00:00:00 |
|  4 | Chaitali |   2060 | 2008-05-20 00:00:00 |
+----+----------+--------+---------------------+
```

3.3 Understand the fundamentals of XML and JSON.

How to create XML and JSON files

XML (Extensible Markup Language) is a markup language that is similar to HTML but does not have predefined tags to use. Instead, you create your own tags that are tailored to your individual requirements. This is an effective method for storing data in a format that can be saved, searched, and exchanged. Most interestingly, since XML's basic format is consistent, whether you exchange or transfer XML through networks or networks, whether locally or across the internet, the user can still parse the data due to the structured XML syntax.

3.3.1 XML Declaration

```
<?xml version="1.0" encoding="UTF-8"?>
```

3.3.2 XML Example

```
<?xml version="1.0" encoding="UTF-8"?>

<message>

   <warning>

      Hello World

   <!--missing </warning> -->

</message>
```

Fig 2.4

3.4 JSON

JSON, or JavaScript Object Notation, is a text-based open format that is lightweight and optimised for human-readable data exchange. Douglas Crockford created the JSON format, which is defined in RFC 4627. JSON's official Internet media form is application/json. The file extension for JSON is.json. This guide will teach you about JSON and how to use it in different programming languages such as PHP, PERL, Python, Ruby, and Java.

3.4.1 Syntax and Structure

A JSON object is a key-value data file with curly braces. When dealing with JSON, you'll most likely encounter JSON objects in.json files, but they may also exist as a JSON object or string within the context of a program.

A sample view of a JSON Object:

```
{
 "first_name" : "Sammy",
 "last_name" : "Shark",
 "location" : "Ocean",
```

```
 "online" : true,
 "followers" : 987
}
```


Fig 2.5

3.5 Summary and Learning

The technologies mentioned in this section were a part of the week 2 of the hc facet with uft learning path program. I not only got theoretical knowledge during this period, but also solved various assignments and tasks regularly to gain hands on experience of what I learned in this time period. Below are some of the snapshots of the completed assessments:

SQL Hands ON:

Cars not taken for rent

Write a query to display car id, car name, car type of cars which was not taken for rent. Sort the result based on car id.

(HINT: Use **Cars** and **Rentals** tables to retrieve records.)
NOTE: Maintain the same sequence of column order, as specified in the question description

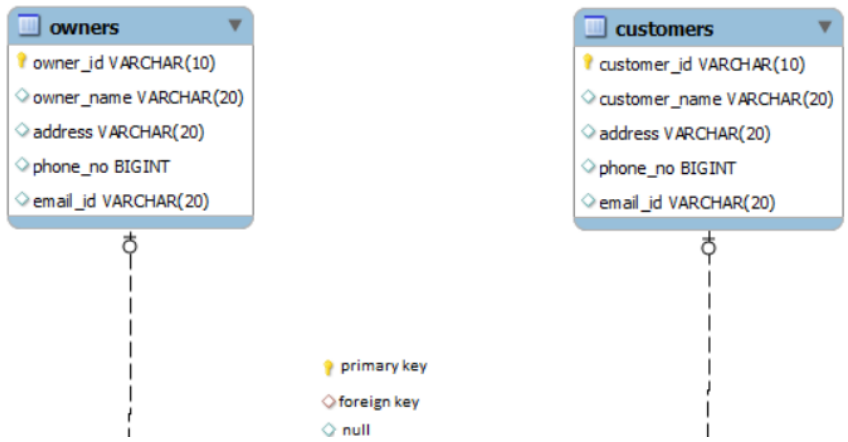


Fig 2.6

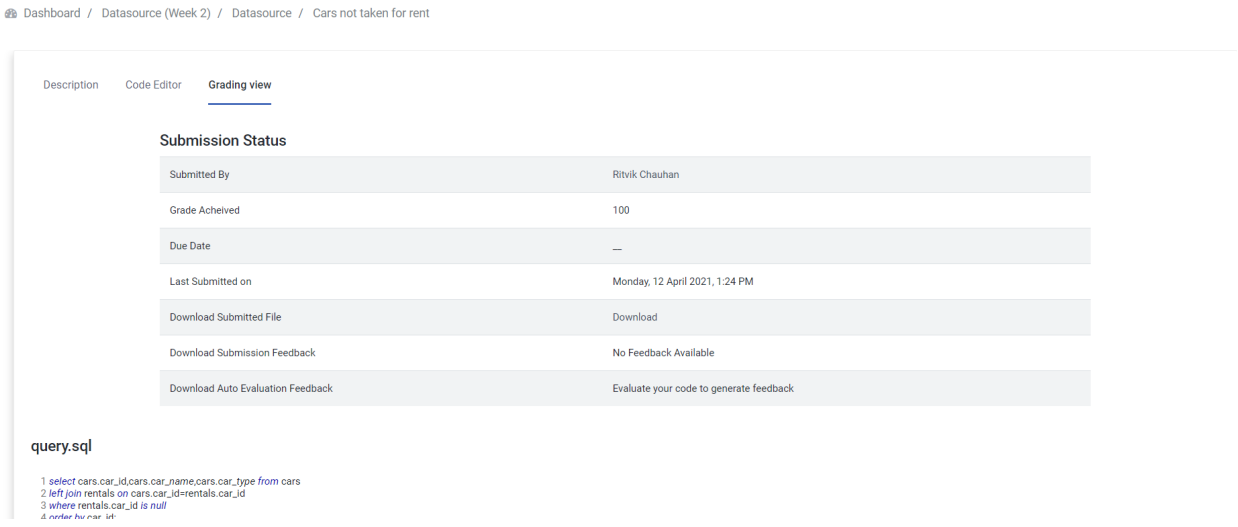


Fig 2.7

XML Hands ON:

Well Formed XML - Hotel Information

Generate an XML document for the given scenario

Create a xml containing information of all the hotels mentioned below with their star rating, facilities, address, type and availability.

Add the "id" as the hotel attribute

id	Name	Stars	Facilities	Address	Type	Available
1	TAJ GANJ	3	Restaurant,Parking,Internet	TajGanj, Fatehabad Road Agra Uttar Pradesh 282001	Budget	True
2	TAJ EXOTICA	5	Indian therapies,Yoga and meditation,Spaindulges,Parking	CalwaddoBenaulim, Salcete Goa 403716	Luxury	False
3	VIVANTA by TAJ	3	Parking,Restaurant,Internet, Chinese Restaurant, Party Lawn	105, Race Course Road Coimbatore TamilNadu 641018	Medium luxury	True
4	TAJ DECCAN	4	Parking,Fitnesscenter,Meetingrooms,Private dining for party	Road No. 1, Banjara Hills Hyderabad Telangana State 500034	Budget	True
5	TAJ BEKAL RESORT	4	Spa ,Internet ,Yoga and meditation,parking,internet	Kappil Beach Kasargod Kerala 671319	Luxury	False

Fig 2.8

Query:

Hotels.xml

```
<Hotels>
  <Hotel id='1'>
    <Name>TAJ GANJ</Name>
    <Stars>3</Stars>
    <Facilities>Restaurant,Parking,Internet</Facilities>
    <Address>TajGanj,Fatehbad Road Agra Uttar Pradesh 282001</Address>
    <Type>Budget</Type>
    <Available>True</Available>
  </Hotel>
  <Hotel id='2'>
    <Name>TAJ EXOTICA</Name>
    <Stars>5</Stars>
    <Facilities>Indian therapies,Yoga and meditation,spaindulges,Parking</Facilities>
    <Address>CalwaddoBenaulim,Salcete Goa 403716</Address>
    <Type>Luxury</Type>
    <Available>False</Available>
  </Hotel>
  <Hotel id='3'>
    <Name>VIVANTA by TAJ</Name>
    <Stars>3</Stars>
    <Facilities>Parking,Restaurant,Internet,Chinese Restaurant,Party Lawn</Facilities>
    <Address>105,Race Course Road Coimbatore TamilNadu 641018</Address>
    <Type>Medium Luxury</Type>
    <Available>True</Available>
  </Hotel>
  <Hotel id='4'>
    <Name>TAJ DECCAN</Name>
    <Stars>4</Stars>
    <Facilities>Parking,Fitnesscenter,Meetingrooms,Private,dining for party</Facilities>
    <Address>Road No. 1,Banjara Hills Hyderabad Telangana State 500034</Address>
    <Type>Budget</Type>
    <Available>True</Available>
  </Hotel>
  <Hotel id='5'>
    <Name>TAJ BEKAL RESORT</Name>
    <Stars>4</Stars>
    <Facilities>Spa,Internet,Yoga and meditation,parking,internet</Facilities>
    <Address>Kappil Beach Kasargod Kerala 671319</Address>
    <Type>Luxury</Type>
    <Available>False</Available>
  </Hotel>
</Hotels>
```

Fig 2.9

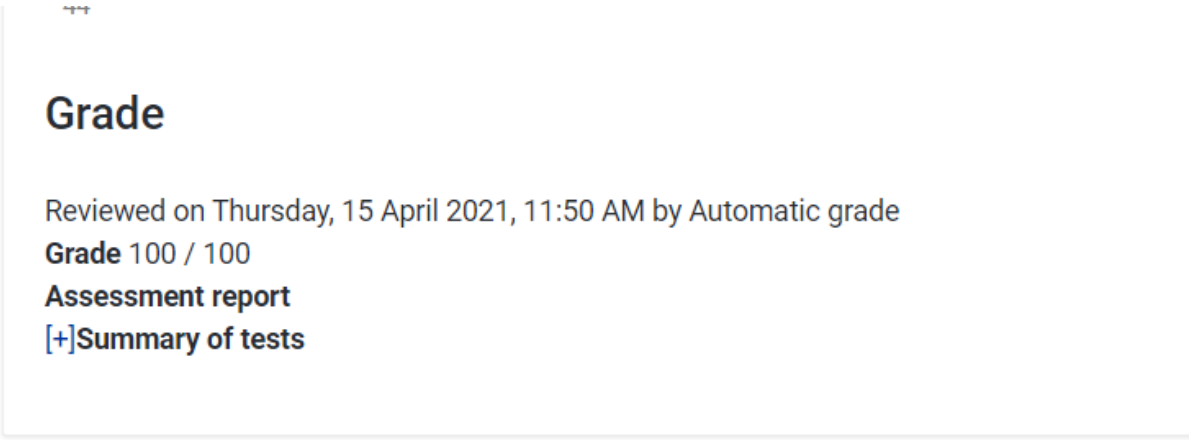


Fig 2.10

This was the end of theData Source module. The module was concluded by a final proctored test wherein it was asked to demonstrate all the technologies learnt during these weeks.

Chapter 4

VBScript Programming

4.1 Introduction

VBScript (Visual Basic Script) was designed by Microsoft with the goal of producing immersive web pages. It's a scripting language for the client that's comparable to JavaScript. VBScript (Microsoft Visual Basic Script) is a simpler version of Visual Basic. The syntax of VBScript is identical to that of Visual Basic. Use VBScript in your coding if you want to make your website more vivid and interesting.

VBScript is nothing more than a scripting language. As a result, it is unable to execute the code on its own. It needs a more complex programming language to host it.

VBScript is an abbreviation for Visual Basic Scripting, which is a variant of Visual Basic for Applications (VBA).VBA is a Microsoft product that is used not only in other Microsoft software like MS Project and MS Office, but also in third-party applications like AUTO CAD.

VBScript Advantages

• VBScript is a simple scripting language with a lightning-fast parser.

• For the most part, VBScript is case insensitive. It has a very basic syntax that is simple to understand and enforce.

• Unlike C++ or Java, VBScript is NOT an Object-Oriented Programming language, but rather an object-based scripting language.

• It makes use of the Component Object Model (COM) to access the elements of the context in which it is running.

4.2 VBscript – Version History and Uses

- Microsoft launched VBScript in 1996, with version 1.0 being the latest. The most recent stable version of VBScript is 5.8, which is used with Internet Explorer 8 or Windows 7. The VBScript use areas are many and are not exclusive to the list below.
- VBScript is a scripting language used in one of the most common automation testing tools, Quick Test Professional, abbreviated as QTP.
- Windows Scripting Host, which is mostly used by Windows System Managers to automate the Windows Desktop.

- Active Server Pages (ASP), a server-side scripting environment that uses VBScript or Java Script to create interactive webpages.
- VBScript is used in Microsoft Internet Explorer for client-side scripting.
- Microsoft Outlook Forms are usually written in VBScript; however, application-level programming is done in VBA (Outlook 2000 onwards).

4.2.1 VBScript Syntax

```
<html>
  <body>
    <script language = "vbscript" type = "text/vbscript">
      document.write("Hello World!")
    </script>
  </body>
</html>
```

Fig 3.1

4.2.2 Declaring Variables

The “dim” keyword is used to state variables. Since there is only ONE fundamental data form, all declared variables are by default variant. As a result, a user does not need to mention the Form of data during declaration.

4.2.3 Declaring Constants

The Constant may be of either the Public or Private kind. It is optional to use public or private. Public constants are valid for all scripts and procedures, whereas Private Constants are available only within the process or Class. Anything , such as a number, string, or date, may be assigned to the declared Constant.

4.2.4 Decision making

Programmers can monitor the execution flow of a script or one of its parts using decision making. One or more conditional statements control the execution.

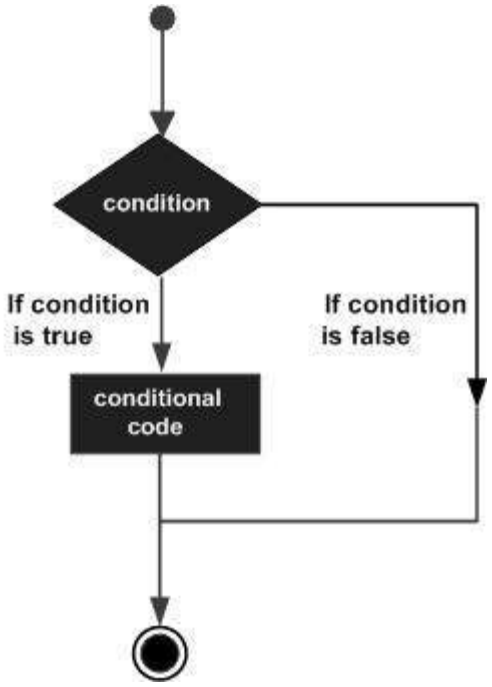


Fig 3.2

4.2.5 Loops

There will be occasions where you need to run a block of code many times. In general, statements are executed in the following order: the first statement in a function is executed first, then the second, and so on.

A loop statement helps one to execute a statement or series of statements several times. The basic form of a loop statement in VBScript is as follows.

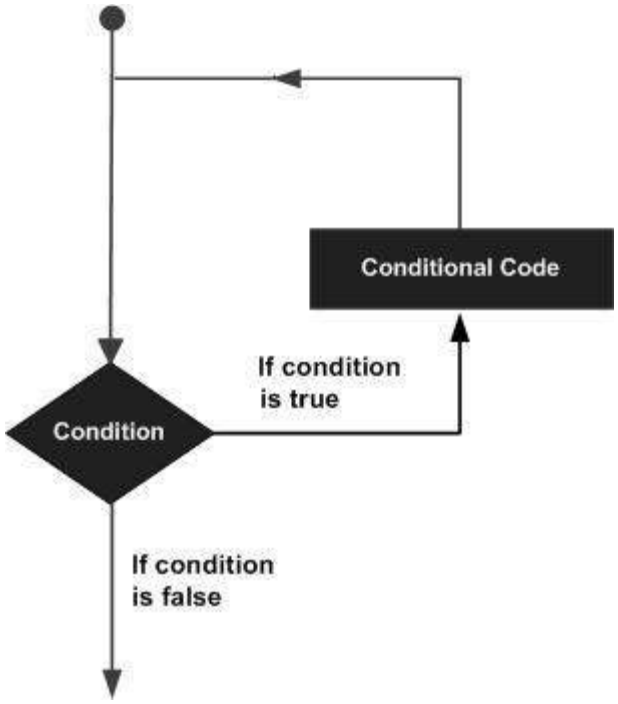


Fig 3.3

4.2.6 Strings

Strings are a series of characters that may include alphabets, numbers, special characters, or both of them. If a variable is enclosed in double quotes " ", it is assumed to be a string.

Syntax:

variablename = "string"

Example:

```
str1 = "string"    ' Only Alphabets
str2 = "132.45"    ' Only Numbers
str3 = "!@#$;*"    ' Only Special Characters
Str4 = "Asc23@#"   ' Has all the above
```

4.2.7 Array

Arrays are declared in the same manner as variables are, with the exception that array variables are declared using parenthesis. The size of the array is indicated in brackets in the following case.

```
'Method 1 : Using Dim
Dim arr1() 'Without Size

'Method 2 : Mentioning the Size
Dim arr2(5) 'Declared with size of 5

'Method 3 : using 'Array' Parameter
Dim arr3
arr3 = Array("apple","Orange","Grapes")
```

4.2.8 Functions

A feature is a collection of interchangeable code that can be called from anywhere in the application. This removes the need to rewrite the same code over and over. This allows programmers to break down a large programme into a series of small and manageable tasks. Aside from the built-in features, VBScript encourages us to build our own.

```
<!DOCTYPE html>
<html>
   <body>
      <script language = "vbscript" type = "text/vbscript">
         Function Functionname(parameter-list)
            statement 1
            statement 2
            statement 3
            .......
            statement n
         End Function

      </script>
   </body>
</html>
```

Fig 3.4

4.2.8.1 Procedures

There are few distinctions between sub-procedures and functions.

- Sub-procedures ARE NOT PERMITTED Functions must return a value, while functions may or may not return a value.
- Sub-procedures may be named without the use of the call keyword.
- Subprocedures are often surrounded by Sub and End Sub sentences.

To trigger a Method later in the document, simply write the name of the procedure, with or without the Call keyword.

```
<!DOCTYPE html>
<html>
   <body>
      <script language = "vbscript" type = "text/vbscript">
         Sub sayHello()
            msgbox("Hello there")
         End Sub
         sayHello()

      </script>
   </body>
</html>
```

Fig 3.5

4.2.9 Regular Expressions

Regular Expressions are a collection of characters that form a template and are mostly used for search and replace. The aim of making a pattern is to align particular strings in order for the creator to remove characters depending on conditions and substitute specific characters.

The match pattern serves as a basis for testing another string, the search string, for a matching sub-string. The match pattern series, in its most basic form, is simply a series of characters that must be paired, such as path names and Internet URLs. As a result, the RegExp object is commonly used to validate data for proper syntax and type.

Making use of a RegExp Object:

Create a RegExp object and set the match pattern to validate a search string against a match pattern. Then, to check for a match, use the.Test tool. As an example:

```
Dim oRE, bMatch
Set oRE = New RegExp
oRE.Pattern = "fred"
bMatch = oRE.Test("His name was fred brown")
```

Fig 3.5

4.3 Summary and Learning

The techniques and tools mentioned in this chapter were implemented by me in week 3 of the HC Facet uft learning path. . I not only got theoretical knowledge during this period, but also solved various assignments and tasks regularly to gain hands on experience of what I learned in this time period.

Below are some of the snapshots of the hands on done by me :

Sorting string in vbscript:

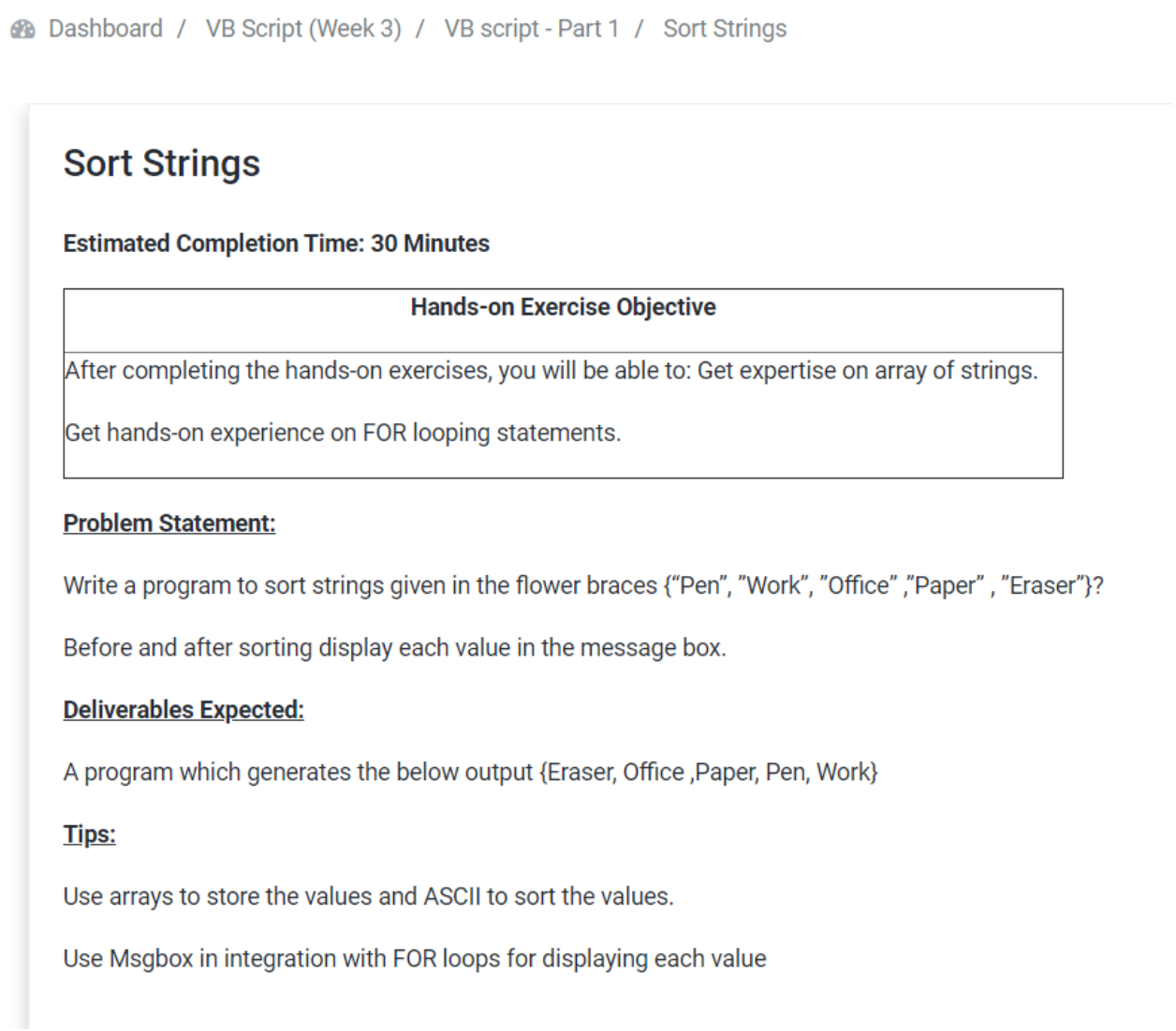


Fig 3.6

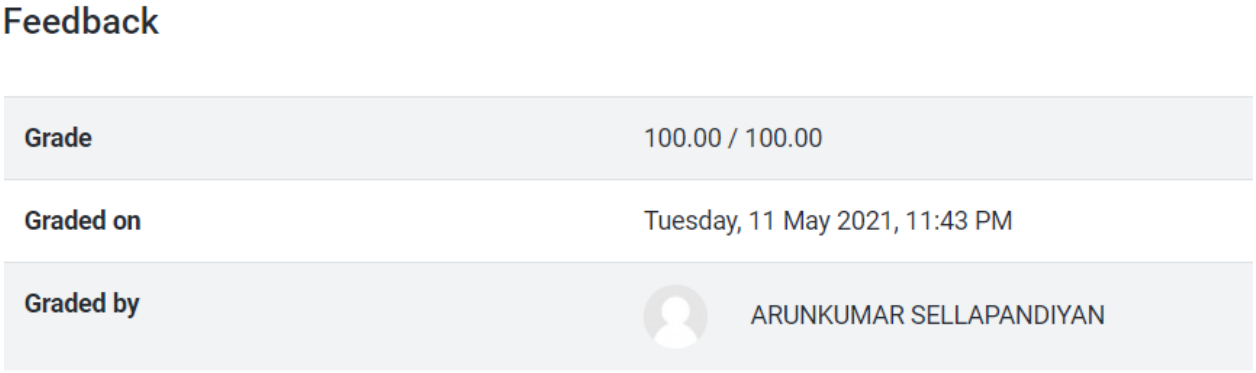


Fig 3.7

Display Date in Specific Format

Estimated Completion Time: 30 Minutes

Hands-on Exercise Objective
After completing the hands-on exercises, you will be able to: date functions

Problem Statement:

Write a program to display the current date in the following formats:

1. DD/MM/YYYY
2. MM/DD/YYYY
3. DD-MMM-YYYY
4. DD/MMM/YYYY
5. DD-MM-YYYY

Deliverables Expected:

Single Message box, which should show the current date in the above mentioned formats

Tips:

Use date functions.

Fig 3.8

Feedback

Grade	100.00 / 100.00
Graded on	Tuesday, 11 May 2021, 8:51 PM
Graded by	ARUNKUMAR SELLAPANDIYAN

Fig 3.9

Regular Expression Match

Estimated Completion Time: 20 Minutes

Hands-on Exercise Objective
After completing the hands-on exercises, you will be able to: Create and use Regular Expression Objects

Problem Statement:

Write a Regular expression match for the expression Inbox (N) where N can by any positive integer.

If N= 0 then only "Inbox" will be displayed, braces will not be displayed. Examples: Inbox, Inbox(3), Inbox(100)

Deliverables Expected:

Proper output and without any error message.

Fig 3.10

Feedback

Grade	100.00 / 100.00
Graded on	Monday, 10 May 2021, 9:16 PM
Graded by	ARUNKUMAR SELLAPANDIYAN

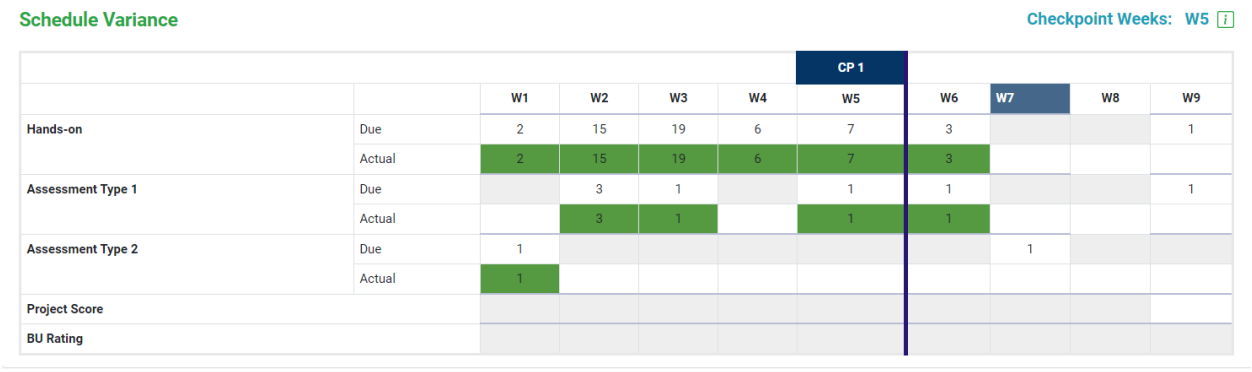
Fig 3.11

This concluded the assignments for week 3. After successful completion of these assignments, an online proctored assessment was held.

Chapter 5

Conclusion

Currently I have completed 7 weeks of my HC Facet with UFT training program in Cognizant Technology Solutions. Figure 5.1 marks the completion of my two checkpoint. During this period, I have learnt about Software testing, SQL, XML, JSON, VBscript and UFT. The learning was not only theoretical, but was accompanied with various hands-on exercises and assessments. The green mark on the figure shows successful completion of the hands-on exercises and the assessments with more than 90% grade.



		W1	W2	W3	W4	W5	W6	W7	W8	W9
Hands-on	Due	2	15	19	6	7	3			1
	Actual	2	15	19	6	7	3			
Assessment Type 1	Due		3	1		1	1			1
	Actual		3	1		1	1			
Assessment Type 2	Due	1						1		
	Actual	1								
Project Score										
BU Rating										

Fig4.1

There are total 9 weeks in the complete training path. In the upcoming weeks I will learn more about UFT and HC Facets and also complete a major project and hackathon. Currently, I have completed one mini project submitted for grading. After the successful submission of these projects, I will be offered a full-time role in the organization.

REFERENCES

1. The Complete 2021 Software Testing Bootcamp

   Course Link

2. SQL for Beginners: Learn SQL using MySQL and Database Design
   https://cognizant.udemy.com/course/sql-for-beginners-course/

3. Learn API Technical Writing: JSON and XML for Writers
   https://cognizant.udemy.com/course/api-documentation-1-json-and-xml/

4. VBScripting Fundamentals
   https://cognizant.udemy.com/course/vb-scripting-fundamentals/

5. Tutorialspoint VBscripting
   https://www.tutorialspoint.com/vbscript/

171324_CondensedSem_TRAINING_REPORT.docx

by

Submission date: 24-Jun-2021 01:41PM (UTC+0530)

Submission ID: 1611482023

File name: 171324_CondensedSem_TRAINING_REPORT.docx (1.54M)

Word count: 4313

Character count: 23707

171324_CondensedSem_TRAINING_REPORT.docx

ORIGINALITY REPORT

22%	12%	0%	15%
SIMILARITY INDEX	INTERNET SOURCES	PUBLICATIONS	STUDENT PAPERS

PRIMARY SOURCES

1	www.tutorialspoint.com Internet Source	8%
2	Submitted to Jaypee University of Information Technology Student Paper	3%
3	Submitted to Asia Pacific University College of Technology and Innovation (UCTI) Student Paper	1%
4	developer.mozilla.org Internet Source	1%

5 Submitted to Higher Education Commission Pakistan — 1%

Student Paper

6 Submitted to Anglia Ruskin University — 1%

Student Paper

7 Submitted to South Thames College — 1%

Student Paper

8 www.digitalocean.com — 1%

Internet Source

9	www.ir.juit.ac.in:8080 Internet Source	1%
10	Submitted to Colorado Technical University Online Student Paper	1%
11	Submitted to Melbourne Institute of Technology Student Paper	1%
12	Submitted to College of Engineering, Pune Student Paper	<1%
13	Submitted to De Montfort University Student Paper	<1%
14	Submitted to Softwarica College of IT & E-	<1%

	Commerce Student Paper	
15	portal.dl.saga-u.ac.jp Internet Source	<1%
16	www.scribd.com Internet Source	<1%
17	orca.cf.ac.uk Internet Source	<1%
18	Submitted to NCC Education Student Paper	<1%

Exclude quotes On Exclude matches < 14 words Exclude bibliography On

171324_CondensedSem_TRAINING_REPORT.docx

by

Submission date: 24-Jun-2021 01:41PM (UTC+0530)
Submission ID: 1611482023
File name: 171324_CondensedSem_TRAINING_REPORT.docx (1.54M)
Word count: 4313
Character count: 23707

TRAINING REPORT

Project report submitted in partial fulfillment of the requirement for the degree of Bachelor of Technology

In COMPUTER SCIENCE ENGINEERING

Under the supervision Of

Cognizant

By:-
Ritvik Chauhan

171324

Department of Computer Science & Engineering and Information Technology
Jaypee University of Information Technology Waknaghat, Solan-173234, Himachal Pradesh

Project Report Undertaking

I **Ritvik Chauhan**, Roll No.: **171324** , Branch- **Computer Science and Engineering** is doing my internship with **Cognizant Technology Solutions** from **1st April 2021** to **11th June 2021**.

As per procedure I have to submitted my project report to the university related to my work that I have done during this internship.

I have compiled my project report. But due to COVID-19 situation my project mentor in the company is not able to sign my project report.

So I hereby declare that the project report is fully designed/developed by me and no part of the work is borrowed or purchased from any agency. And I'll produce a certificate/document of my internship completion with the company to TnP Cell whenever COVID-19 situation gets normal.

171324

22 May, 2021

Acknowledgement

I am grateful to all members of the Computer Science Department, Jaypee University of Information Technology, and Cognizant for their guidance and continuous oversight while supplying required data for the project, as well as their assistance in completing the project. I'd also like to thank **Dr. Vivek Sehgal**, Senior Grade Assistant Professor, as the project Supervisor, and my **technical instructors** from **Cognizant** for their kind cooperation and support, which helped me complete this project and for giving us such focus and time.

DESCRIPTION OF THE COMPANY

Cognizant

Cognizant is a multinational American corporation that offers management consultancy, information processing, and outsourcing services.

Its headquarters are in Teaneck, New Jersey, USA.Cognizant is a global leader in professional services, changing clients' market, operational, and infrastructure structures for the modern age. LinkedIn ranked Cognizant second in India in its 2021 rankings. According to LinkedIn, the Top Companies are engaging in workforce success, job creation, equality and inclusion, and diversity and inclusion to ensure that they remain among the best workplaces for employee growth now and in the post-pandemic environment.

DESCRIPTION OF THE COURSE

- Understand how Agile Implementation are done in Software Projects
- Illustrate the different phases of the Functional Testing Life Cycle for a given business requirement
- Understand SQL and perform basic Database operation utilizing the MySQL servers Learn how to design a database and analyze data using normalization and relationships.
- XML/JSON file creation and parsing using UFT automation tool and VBscript
- Learn the fundamentals of VBScript concepts, which are required for UFT automation

Contents

Project Report Undertaking……..ii

Acknowledgement……...iii

Description Of the Company……..iv

Description Of the Course……..v

Chapter 1: Introduction

1.1 About the Training.……...….1

1.2 Technologies Overview…….2

Chapter 2: Software Testing

2.1 Manual Testing…….4

2.2 Agile Testing…...……..5

2.3 Functional Testing…….……5

2.4 Automation Testing……...6

2.5 Performance Testing…….7

2.6 API Testing……....7

2.7 Mobile Testing…….. .7

2.8 Test Case……....7

2.9 BlackBox testing.……10

2.10 Summary and Learning……11

Chapter 3: Datasource

3.1 Introduction……..12

3.2 SQL Fundamentals……...……...……13

3.2.1 SQL Statements……...14

3.2.2 SQL Joins.…….…….....15

3.3 XML……..…….16

3.3.1XML File....……...17

3.4 JSON……..17

3.4.1 Syntax……..17

3.5 Summary and Learning……..18

Chapter 4: VbScript

4.1 Introduction…….....22

4.2 VBscript history and uses……..…….…...…….22

4.2.1VBscript Syntax…….....23

4.2.2Declaring Variable…….……24

4.2.3Declaring Constants…..……...……24

4.2.4Decision Making……...……24

4.2.5Loops……..25

4.2.6Strings……..……..25

4.2.7Array……..…….……26

4.2.8Functions…… ……...……...26

4.2.9 RegularExpressions……..…….……..…..……..28

4.3 Summary and Learning…….……...……..29

Chapter 5: Conclusion

References……34

Chapter 1

Introduction

1.1 About the training

The training commenced on 1st March,2021 and is expected to finish by 11th June,2021. A learning path has been laid by Cognizant for the trainees and the learning path for HC Facets has been designed as per the industry standard requirement for this role. The duration of training for UFT batch is 9 weeks. After the completion of training an end test will be organised by Cognizant for the rollout of Full Time Employee role.

In the training students are expected to go through various Udemy Courses along with the content being taught by the Technical instructor and the mentor. A set timeline has been shared by the company mentioning objectives for each day. Each day we are expected to complete sections from the Udemy courses, then based on these sections daily assignments called as Hands-on needs to be completed.

By the end of every week, we need to attempt an assessment which opens only when the objectives for the week are fulfilled. The assessments are of two types- Code Challenge (CC) and Integrated Capability Test (ICT). In both these assessments passing marks are 70, below this the student has failed a particular assessment. Both these assessments are proctored. CC can be attempted only once i.e., there's no retest in case a student score below 70. In case of ICT, we have two chances. Weightage of ICT is the highest followed by CC and then hands-on.

1.2Technologies Overview

The HC facets require UFT or Unified Functional Testing software to do testing for various products related to healthcare .Therefore we are trained in topics like SQL, VBscript, XML and JSON.

Overview of technologies used:

- Agile Methodologies & Phases STLC
- Basics of Automation Concepts
- Datasource
- SQL
- XML
- JSON
- VBscript Programming

CHAPTER 2

SOFTWARE TESTING

Basic concept of software testing :- Code testing is essential because if there are any glitches or defects in the software, they can be captured early and fixed before the software product is delivered. A well-tested software product guarantees reliability, security, and high performance, which saves time, money, and improves customer satisfaction. Software bugs can be costly or even harmful, so testing is important. Software bugs have the ability to cause monetary and human losses, and there are many examples throughout history.

- Windows 10 vulnerability Via a loophole in the win32k system, this bug allows users to bypass security sandboxes.
- In 2015, the F-35 fighter plane suffered from a technical error that made it unable to identify targets accurately.
- On April 26, 1994, a software error caused China Airlines' Airbus A300 to crash, killing 264 people.
- In 1985, the Therac-25 radiation therapy unit in Canada malfunctioned due to a programme glitch and administered fatal radiation doses to patients, killing three people and seriously injuring three others.
- In April 1999, a technical error triggered the collapse of a $1.2 billion military satellite mission, making it the most expensive crash in history.
- In May 1996, a technical error charged the accounts of 823 clients of a large U.S. bank with 920 million US dollars.

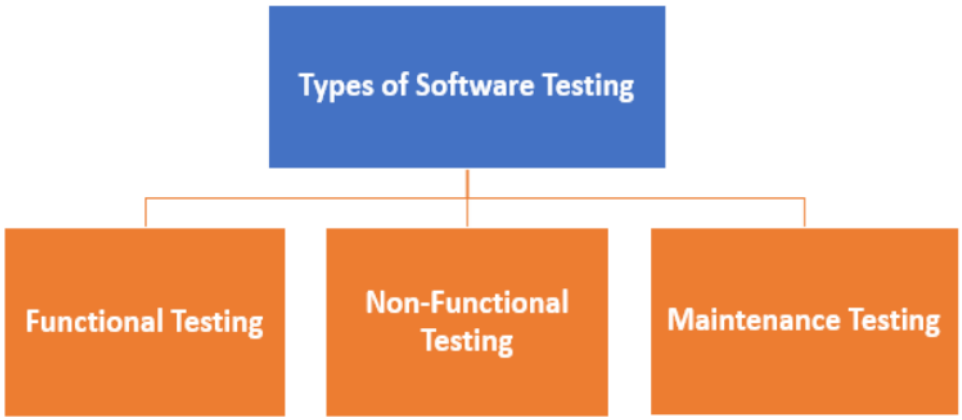


Figure 1. 1 Functional Testing types

Testing is done so as to evaluate system along with entities or components and check whether that system is satisfying particular requirements or not. The basic purpose of doing testing is to find out errors, gaps, and any missing requirements when compared to the actual needed requirements. If testing is done in the early stage, it will save both cost and time. This testing process is not a time-consuming process. The productive activity in the testing phase is to diagnose and fix bugs or errors that occur in the system. There are many features of a software such as portability, reliability, usability, functionality, etc. and the aim of testing any software is to determine these properties or features.

2.1 Manual testing

Manual testing is the method of verifying the performance of a programme in accordance with the needs of the user without the use of automation software. We don't need any technical knowledge of any research method to do manual testing on any application; we just need a good understanding of the product so we can quickly plan the test paper..

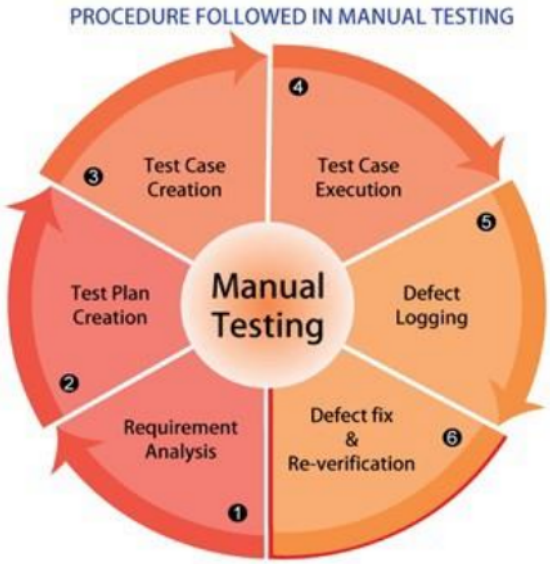


Fig.1.2

2.2Agile Testing

In this testing, agile development is followed in which incremental approach is designed and used for testing. This testing is done when the features of a software are developed.

2.3 Functional Testing

In this testing. each function of a particular software application is verified with the specified requirements. This testing is only concerned with the functions of a software and is not at all concerned with the source code. Test input is used in this type of testing for testing the functionality of the software. This testing aims to check user interface, security, client and server application and functionality of s software that is under test phase.

2.4 Automation Testing

In this type of testing, tester makes use of an automation tool for testing any software. Tester first writes its own script and uses only that script which will be suitable for testing the software. In this testing, repetitive task is performed and implemented without making use of a manual tester. So, we can say that in this testing only automated tools are used and no human intervention is there. This type of testing is faster and more reliable than manual testing. Test cases that are used in this testing is not complex and requires less maintenance.

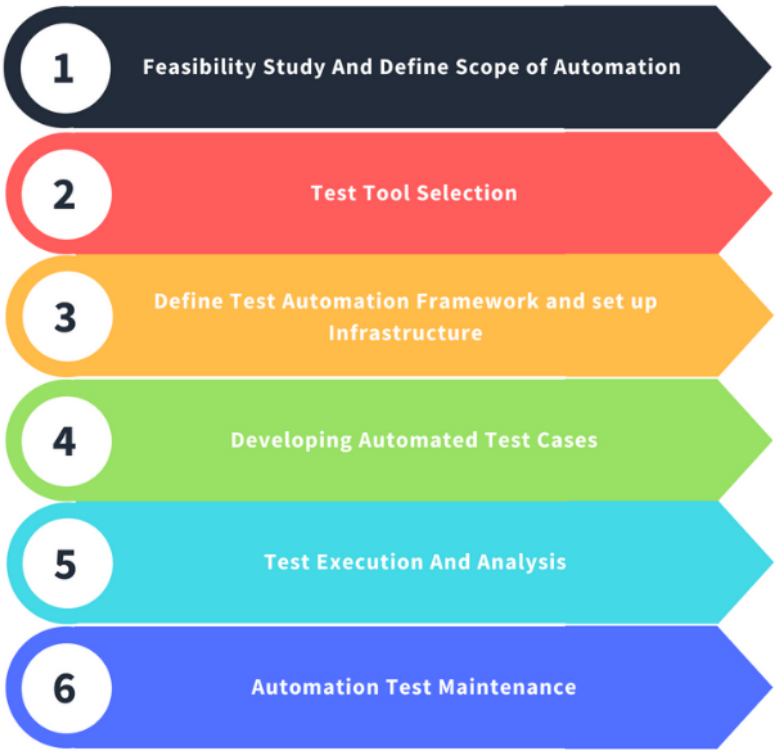


Fig 1.3

2.5 Performance Testing

This type of testing is also known as Perf Testing. This testing analyses quality and capability of a software. In this testing, the main aim is to check whether the software applications are performing and functioning properly or not. In this testing, performance of a particular software is determined in terms of stability, sensitivity and reactivity. The main use of this testing is for removing any performance congestion and it also focuses on enhancing the software before its complete development.

2.6 API Testing

Application Programming Interface (API) comprises of protocols, tools and routines set and specifies how different components are interacting with each other. This type of testing is performed for API collection that is to be tested. This testing verifies the behaviour of API by considering conditions like files and other peripheral devices. In this testing, requirements are checked such as security, performance, and functionality.

2.7 Mobile Testing

Mobile testing is the practise of testing applications for portable mobile devices for reliability, usability, and accuracy. Mobile device monitoring can be either automatic or manual. Mobile testing is a requirement of all product development processes before an app is submitted to the public. This move guarantees that the finished product works well during the customer service journey.

2.8 Test Case

It is a sequence of actions performed to validate a certain feature or capability of your software application. A Test Case includes test steps, test results, preconditions, and postconditions created for a particular test scenario to validate any prerequisite. The test case contains complex variables or parameters that a research engineer may use to measure predicted and real outcomes to assess whether a software product is working as per the customer's specifications.

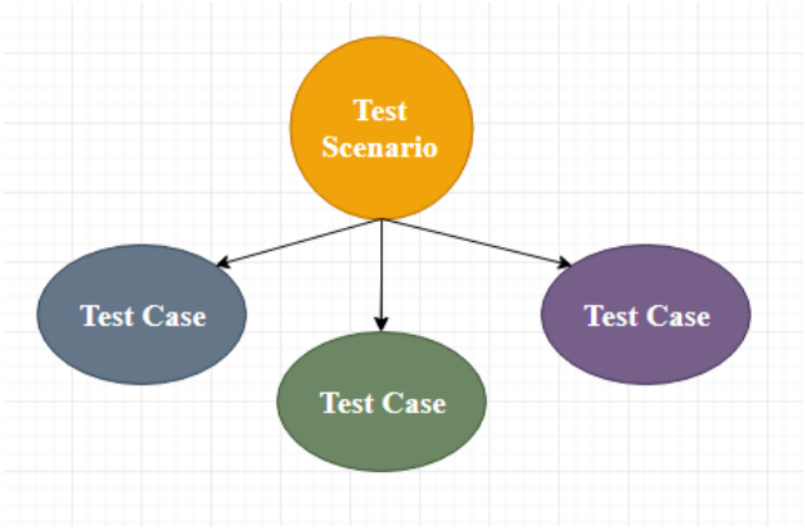


Fig1.4

It is a detailed text that includes all potential feedback (both positive and negative) as well as the navigation measures that are used during the test execution phase. Writing test cases is a one-time attempt that can be reused in the future during regression testing.

A test case contains specific details about the testing strategy, testing procedure, preconditions, and planned performance. This are carried out during the testing period to determine whether or not the software programme is fulfilling the purpose for which it was designed.

The test case assists the testing engineer in defect reporting by associating the defect with the test case ID. Detailed test case analysis acts as a full-proof guard for the research team, and if the developer omitted anything, it may be discovered during the execution of these full-proof test cases.

To note the test case, we must first provide the conditions to extract the inputs, and the test scenarios must be written such that no functions for testing are overlooked. Then, to ensure consistency, we should provide a test case template, or any test engineer should use the same methodology to plan the test paper.

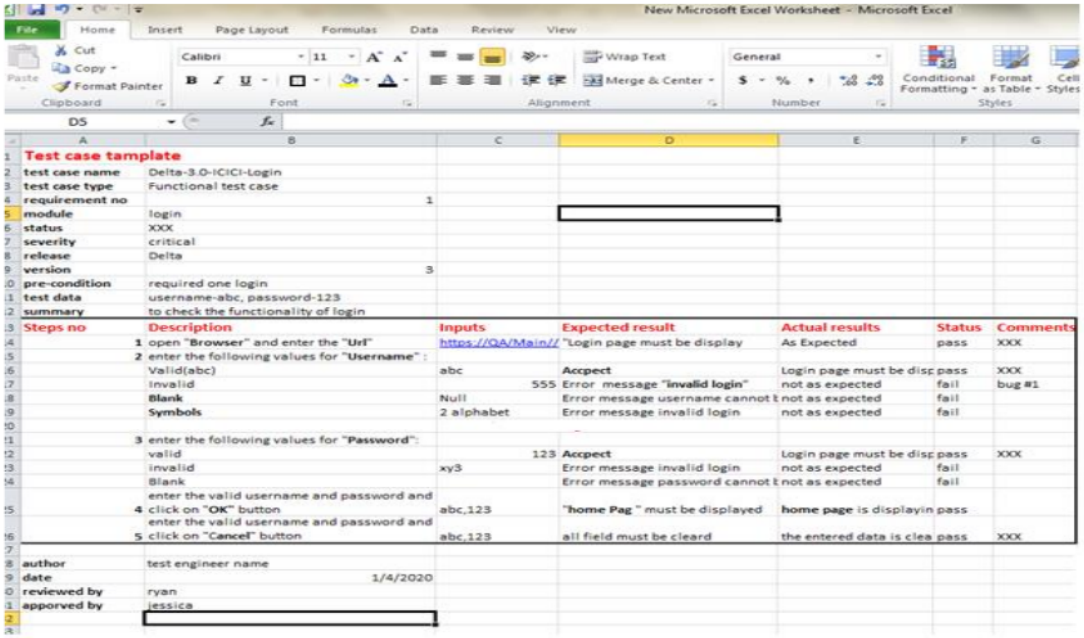
In general, we can write the test case whenever the developer is working on the script.

The exam will be written for the following reasons:

o To require accuracy in the execution of test cases o To ensure greater test coverage

o It is dependent on the procedure rather than on an individual o To stop training on the product with any new test engineer

Test Case Template:-



	A	B	C	D	E	F	G
1	**Test case tamplate**						
2	**test case name**	Delta-3.0-ICICI-Login					
3	**test case type**	Functional test case					
4	**requirement no**	1					
5	**module**	login					
6	**status**	XXX					
7	**severity**	critical					
8	**release**	Delta					
9	**version**	3					
10	**pre-condition**	required one login					
11	**test data**	username-abc, password-123					
12	**summary**	to check the functionality of login					
13	**Steps no**	**Description**	**Inputs**	**Expected result**	**Actual results**	**Status**	**Comments**
14	1	open "**Browser**" and enter the "**Url**"	https://QA/Main//	"Login page must be display	As Expected	pass	XXX
15	2	enter the following values for "**Username**" :					
16		Valid(abc)	abc	**Accpect**	Login page must be disp	pass	XXX
17		Invalid	555	Error message "**invalid login**"	not as expected	fail	bug #1
18		**Blank**	Null	Error message username cannot b	not as expected	fail	
19		**Symbols**	2 alphabet	Error message invalid login	not as expected	fail	
20							
21	3	enter the following values for "**Password**":					
22		valid	123	**Accpect**	Login page must be disp	pass	XXX
23		invalid	xy3	Error message invalid login	not as expected	fail	
24		Blank		Error message password cannot b	not as expected	fail	
25	4	enter the valid username and password and click on "**OK**" button	abc,123	"**home Pag** " must be displayed	**home page** is displayin	pass	
26	5	enter the valid username and password and click on "**Cancel**" button	abc,123	all field must be cleard	the entered data is clea	pass	XXX
27							
28	**author**	test engineer name					
29	**date**	1/4/2020					
30	**reviewed by**	ryan					
31	**apporved by**	jessica					
32							

Fig1.5

2.9 Black Box Testing

Black box testing is a software testing methodology that tests software features without peering at its internal configuration or code. The primary source of black box research is a customer-specified condition specification.

In this approach, the tester selects a function and provides an input value to evaluate its features, and then determines whether or not the function produces the desired output. If the algorithm

returns right results, it passes testing; otherwise, it fails. The research team reports the results to the production team before moving on to the next feature to test.

Still serious bugs persist even after checking all features, it is returned to the production team for correction.

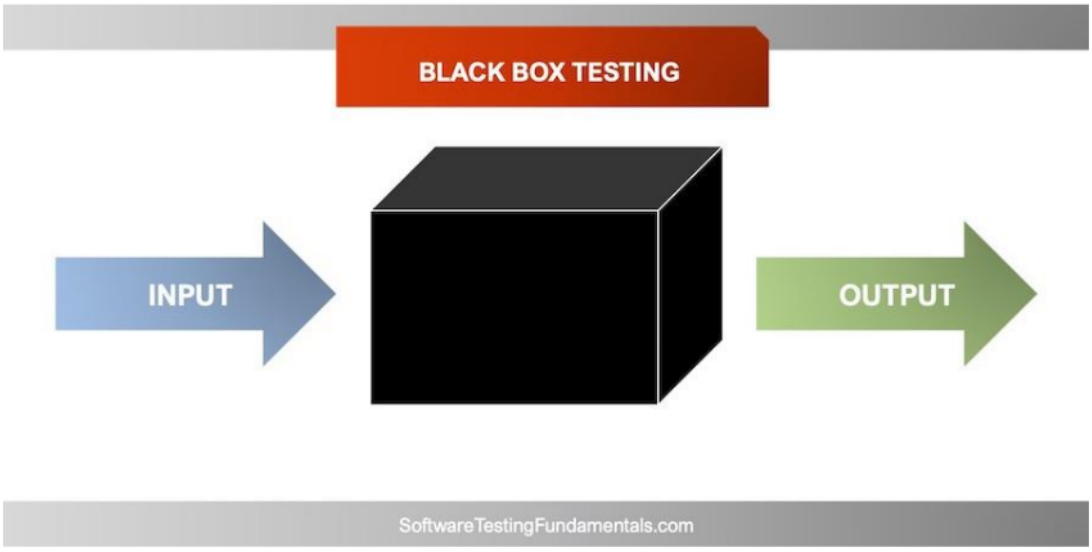


Fig1.6

2.8 Summary and Learning

The technologies mentioned in this chapter were a part of week 1 of the complete HC Facet with UFT learning path. I not only got theoretical knowledge during this period, but also solved various assignments and tasks regularly to gain hands on experience of what I learned in this time period.

During this time period I learned the testing technologies and at the end was given two hands on exercises to write test cases for different scenarios for a given website. I successfully identified the test scenarios and wrote well formed test cases to correctly check the application's working. Here is the snapshot of the grading for my submission.

Submission status

Submission status	Submitted for grading
Grading status	Graded
Last modified	Sunday, 28 March 2021, 11:19 PM
File submissions	hands-on(student enquiry).xlsx 28 March 2021, 11:19 PM
Submission comments	Comments (0)

Figure 1.7: Grading of testing assignment.

Chapter 3

Data Source

3.1 Introduction

In the context of information science and computer applications, a data base is the location from which data is retrieved. The main data point in an information management system is the database, which may be on a disc or on a remote server. A computer program's data base may be a disc, a data sheet, a database, an XML file, or even hard-coded data inside the programme.

3.2 Understand SQL and perform basic Database operation using the MySQL database

SQL is a database computer language that is used to retrieve and manipulate data in relational databases. SQL is an abbreviation for Structured Query Language. This tutorial will provide you with an introduction to SQL. It covers the majority of the topics needed for a basic understanding of SQL and a sense of how it functions.

SQL Applications

As previously said, SQL is one of the most commonly used query languages in databases.

I'll mention some of them here:

- Provides customers with access to data stored in relational database management systems.
- Provides consumers with the ability to identify the results.
- Allows users to identify and access data in a database.
- Enables embedding within other languages via SQL modules, libraries, and pre-compilers.
- Allows users to construct database views, stored procedures, and features.
- Enables users to assign rights to tables, protocols, and views.

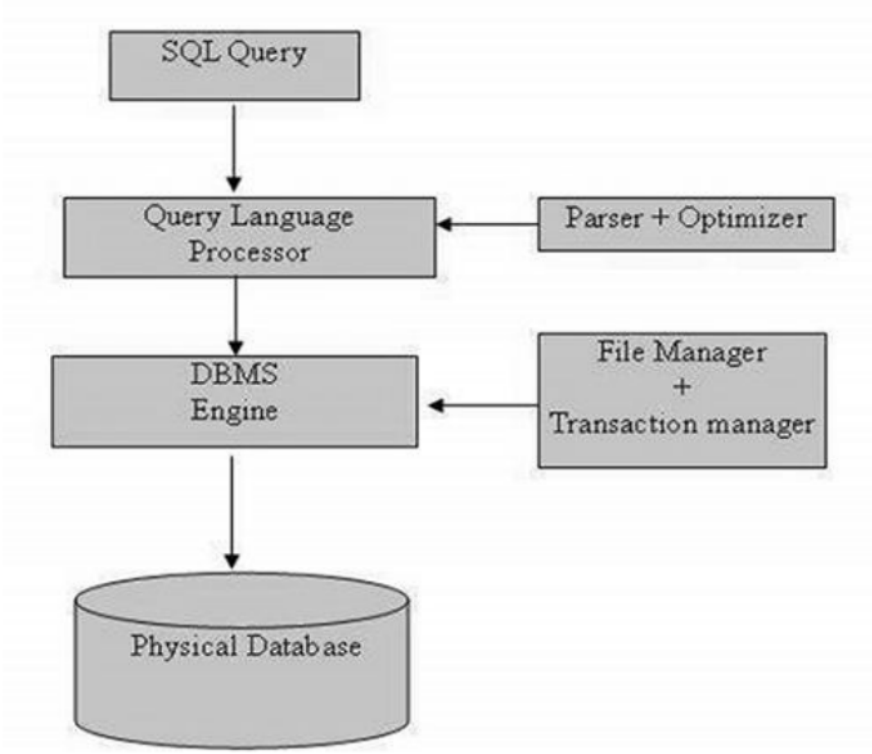


Fig 2.1

3.2.1 SQL Commands

CREATE, Choose, INSERT, UPDATE, DELETE, and DROP are the basic SQL commands for interacting with relational databases. Based on their existence, these commands can be divided into the following groups:

The basic SQL commands that are most commonly used are:

- **DDL** - Data Definition Language includes the following commands:

  Create: Used for creating a new table in a database.

  Alter: Used for modifying an existing table.

  Drop: Used for deleting an entire table.

- **DML** - Data Manipulation Language includes the following commands:

  Select: Used to retrieve particular records from a table.

  Insert: Used to insert a row into a table.

  Update: Used to modify the entries in a table.

  Delete: Deletes a record from the selected table.

- **DCL** - Data Control Language includes the following commands:

  Grant: Allows to user to do something.

  Revoke: Takes back the right from the user.

3.2.2 SQL Joins

Join statement in SQL is used to combine data from two or more tables using values that are common among them. The commonly used Joins are:

- Inner join
- Left join
- Right join
- Full join
- Most commonly and frequently used join statement in SQL is Inner join which is also known as Equijoin. In this Inner join, using join-predicate values of two tables are combined to form a new table. The example of this join is given in Figure. Where Table 1 and Table 2 are considered on which Inner join have been executed to create a new Table.

ID	NAME	AGE	ADDRESS	SALARY
1	Ramesh	32	Ahmedabad	2000.00
2	Khilan	25	Delhi	1500.00
3	kaushik	23	Kota	2000.00
4	Chaitali	25	Mumbai	6500.00
5	Hardik	27	Bhopal	8500.00
6	Komal	22	MP	4500.00
7	Muffy	24	Indore	10000.00

Fig 2.2

OID	DATE	CUSTOMER_ID	AMOUNT
102	2009-10-08 00:00:00	3	3000
100	2009-10-08 00:00:00	3	1500
101	2009-11-20 00:00:00	2	1560
103	2008-05-20 00:00:00	4	2060

Fig 2.3

```
SQL> SELECT  ID, NAME, AMOUNT, DATE
   FROM CUSTOMERS
   INNER JOIN ORDERS
   ON CUSTOMERS.ID = ORDERS.CUSTOMER_ID;
```

ID	NAME	AMOUNT	DATE
3	kaushik	3000	2009-10-08 00:00:00
3	kaushik	1500	2009-10-08 00:00:00
2	Khilan	1560	2009-11-20 00:00:00
4	Chaitali	2060	2008-05-20 00:00:00

3.3 Understand the fundamentals of XML and JSON.

How to create XML and JSON files

XML (Extensible Markup Language) is a markup language that is similar to HTML but does not have predefined tags to use. Instead, you create your own tags that are tailored to your individual requirements. This is an effective method for storing data in a format that can be saved, searched, and exchanged. Most interestingly, since XML's basic format is consistent, whether you exchange or transfer XML through networks or networks, whether locally or across the internet, the user can still parse the data due to the structured XML syntax.

3.3.1 XML Declaration

```
<?xml version="1.0" encoding="UTF-8"?>
```

3.3.2 XML Example

```
<?xml version="1.0" encoding="UTF-8"?>
<message>
   <warning>
      Hello World
   <!--missing </warning> -->
</message>
```

Fig 2.4

3.4 JSON

JSON, or JavaScript Object Notation, is a text-based open format that is lightweight and optimised for human-readable data exchange. Douglas Crockford created the JSON format, which is defined in RFC 4627. JSON's official Internet media form is application/json. The file extension for JSON is.json. This guide will teach you about JSON and how to use it in different programming languages such as PHP, PERL, Python, Ruby, and Java.

3.4.1 Syntax and Structure

A JSON object is a key-value data file with curly braces. When dealing with JSON, you'll most likely encounter JSON objects in.json files, but they may also exist as a JSON object or string within the context of a program.

A sample view of a JSON Object:

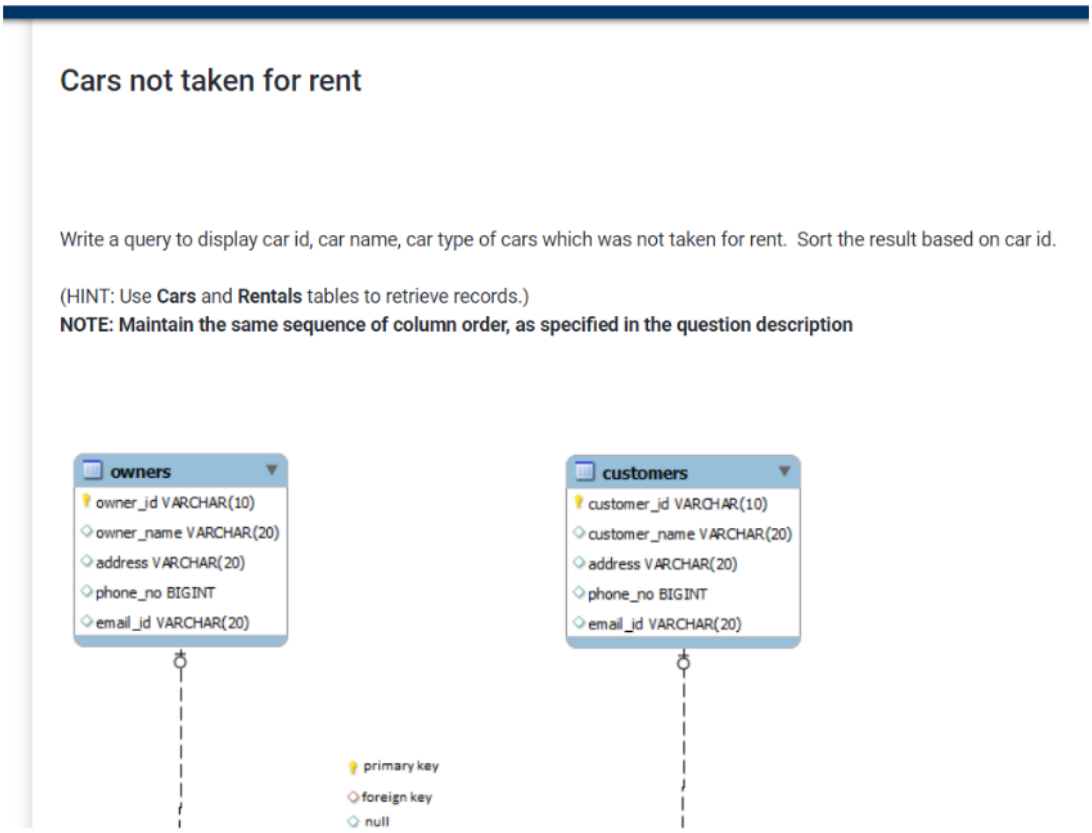
```
{
 "first_name" : "Sammy",
 "last_name" : "Shark",
 "location" : "Ocean",
 "online" : true,
 "followers" : 987
}
```

Fig 2.5

3.5 Summary and Learning

The technologies mentioned in this section were a part of the week 2 of the hc facet with uft learning path program. I not only got theoretical knowledge during this period, but also solved various assignments and tasks regularly to gain hands on experience of what I learned in this time period. Below are some of the snapshots of the completed assessments:

SQL Hands ON:



17
Fig 2.6

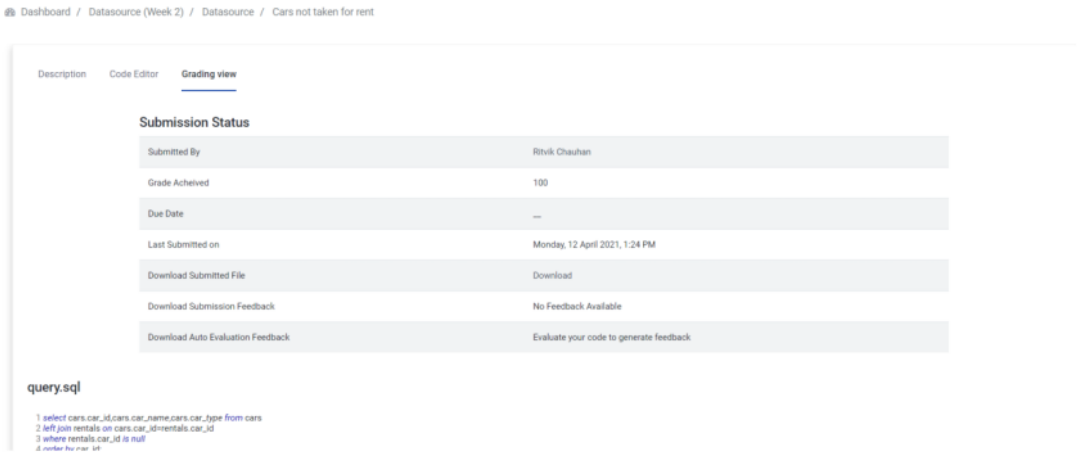
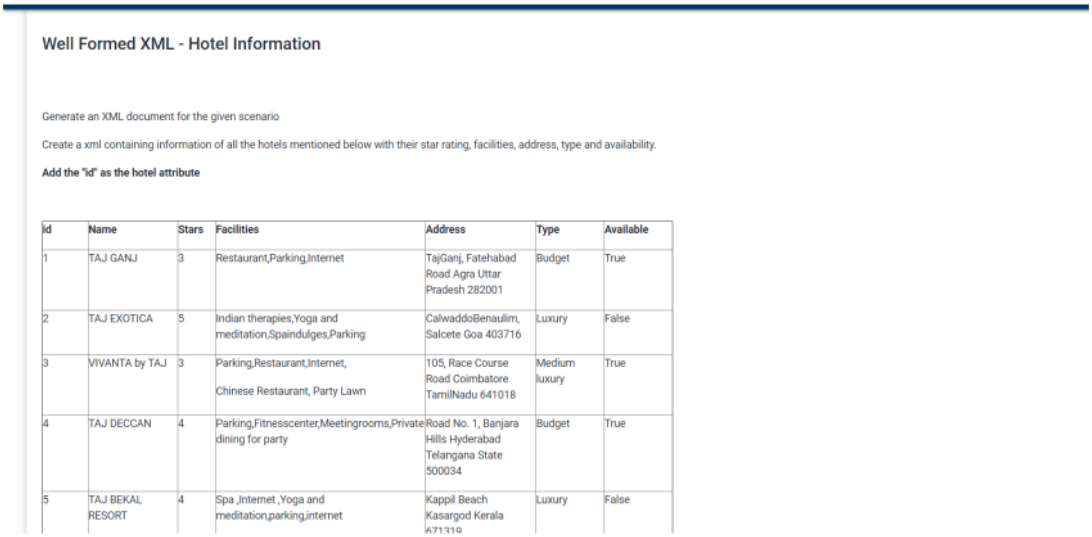


Fig 2.7

XML Hands ON:



Well Formed XML - Hotel Information

Generate an XML document for the given scenario

Create a xml containing information of all the hotels mentioned below with their star rating, facilities, address, type and availability.

Add the "id" as the hotel attribute

id	Name	Stars	Facilities	Address	Type	Available
1	TAJ GANJ	3	Restaurant,Parking,Internet	TajGanj, Fatehabad Road Agra Uttar Pradesh 282001	Budget	True
2	TAJ EXOTICA	5	Indian therapies,Yoga and meditation,Spaindulges,Parking	CalwaddoBenaulim, Salcete Goa 403716	Luxury	False
3	VIVANTA by TAJ	3	Parking,Restaurant,Internet, Chinese Restaurant, Party Lawn	105, Race Course Road Coimbatore TamilNadu 641018	Medium luxury	True
4	TAJ DECCAN	4	Parking,Fitnesscenter,Meetingrooms,Private dining for party	Road No. 1, Banjara Hills Hyderabad Telangana State 500034	Budget	True
5	TAJ BEKAL RESORT	4	Spa ,Internet ,Yoga and meditation,parking,internet	Kappil Beach Kasargod Kerala 671319	Luxury	False

Fig 2.8

Query:

Hotels.xml

```
<Hotels>
  <Hotel id='1'>
    <Name>TAJ GANJ</Name>
    <Stars>3</Stars>
    <Facilities>Restaurant,Parking,Internet</Facilities>
    <Address>TajGanj,Fatehbad Road Agra Uttar Pradesh 282001</Address>
    <Type>Budget</Type>
    <Available>True</Available>
  </Hotel>
  <Hotel id='2'>
    <Name>TAJ EXOTICA</Name>
    <Stars>5</Stars>
    <Facilities>Indian therapies,Yoga and meditation,spaindulges,Parking</Facilities>
    <Address>CalwaddoBenaulim,Salcete Goa 403716</Address>
    <Type>Luxury</Type>
    <Available>False</Available>
  </Hotel>
  <Hotel id='3'>
    <Name>VIVANTA by TAJ</Name>
    <Stars>3</Stars>
    <Facilities>Parking,Restaurant,Internet,Chinese Restaurant,Party Lawn</Facilities>
    <Address>105,Race Course Road Coimbatore TamilNadu 641018</Address>
    <Type>Medium Luxury</Type>
    <Available>True</Available>
  </Hotel>
  <Hotel id='4'>
    <Name>TAJ DECCAN</Name>
    <Stars>4</Stars>
    <Facilities>Parking,Fitnesscenter,Meetingrooms,Private,dining for party</Facilities>
    <Address>Road No. 1,Banjara Hills Hyderabad Telangana State 500034</Address>
    <Type>Budget</Type>
    <Available>True</Available>
  </Hotel>
  <Hotel id='5'>
    <Name>TAJ BEKAL RESORT</Name>
    <Stars>4</Stars>
    <Facilities>Spa,Internet,Yoga and meditation,parking,internet</Facilities>
    <Address>Kappil Beach Kasargod Kerala 671319</Address>
    <Type>Luxury</Type>
    <Available>False</Available>
  </Hotel>
</Hotels>
```

Fig 2.9

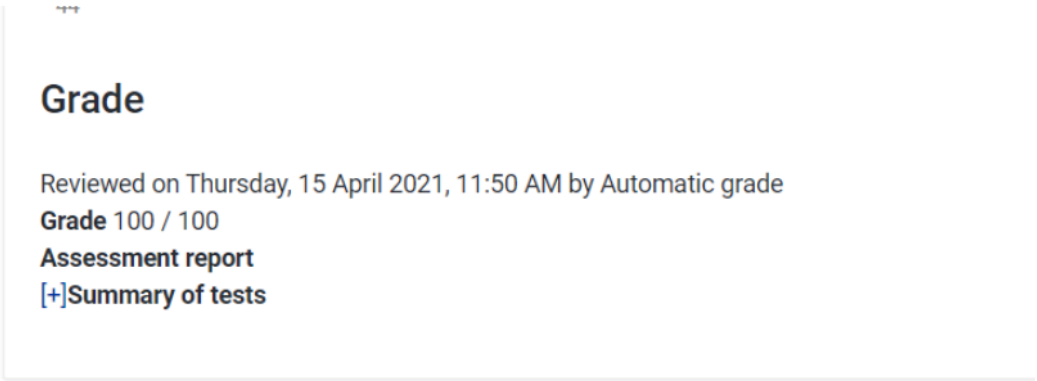


Fig 2.10

This was the end of theData Source module. The module was concluded by a final proctored test wherein it was asked to demonstrate all the technologies learnt during these weeks.

Chapter 4

VBScript Programming

4.1 Introduction

VBScript (Visual Basic Script) was designed by Microsoft with the goal of producing immersive web pages. It's a scripting language for the client that's comparable to JavaScript. VBScript (Microsoft Visual Basic Script) is a simpler version of Visual Basic. The syntax of VBScript is identical to that of Visual Basic. Use VBScript in your coding if you want to make your website more vivid and interesting.

VBScript is nothing more than a scripting language. As a result, it is unable to execute the code on its own. It needs a more complex programming language to host it.

VBScript is an abbreviation for Visual Basic Scripting, which is a variant of Visual Basic for Applications (VBA).VBA is a Microsoft product that is used not only in other Microsoft software like MS Project and MS Office, but also in third-party applications like AUTO CAD.

VBScript Advantages

• VBScript is a simple scripting language with a lightning-fast parser.

• For the most part, VBScript is case insensitive. It has a very basic syntax that is simple to understand and enforce.

• Unlike C++ or Java, VBScript is NOT an Object-Oriented Programming language, but rather an object-based scripting language.

• It makes use of the Component Object Model (COM) to access the elements of the context in which it is running.

4.2 VBscript – Version History and Uses

- Microsoft launched VBScript in 1996, with version 1.0 being the latest. The most recent stable version of VBScript is 5.8, which is used with Internet Explorer 8 or Windows 7. The VBScript use areas are many and are not exclusive to the list below.
- VBScript is a scripting language used in one of the most common automation testing tools, Quick Test Professional, abbreviated as QTP.
- Windows Scripting Host, which is mostly used by Windows System Managers to automate the Windows Desktop.
- Active Server Pages (ASP), a server-side scripting environment that uses VBScript or Java Script to create interactive webpages.
- VBScript is used in Microsoft Internet Explorer for client-side scripting.
- Microsoft Outlook Forms are usually written in VBScript; however, application-level programming is done in VBA (Outlook 2000 onwards).

4.2.1 VBScript Syntax

```
<html>
  <body>
    <script language = "vbscript" type = "text/vbscript">
      document.write("Hello World!")
    </script>
  </body>
</html>
```

Fig 3.1

4.2.2 Declaring Variables

The "dim" keyword is used to state variables. Since there is only ONE fundamental data form, all declared variables are by default variant. As a result, a user does not need to mention the Form of data during declaration.

4.2.3 Declaring Constants

The Constant may be of either the Public or Private kind. It is optional to use public or private. Public constants are valid for all scripts and procedures, whereas Private Constants are available only within the process or Class. Anything , such as a number, string, or date, may be assigned to the declared Constant.

4.2.4 Decision making

Programmers can monitor the execution flow of a script or one of its parts using decision making. One or more conditional statements control the execution.

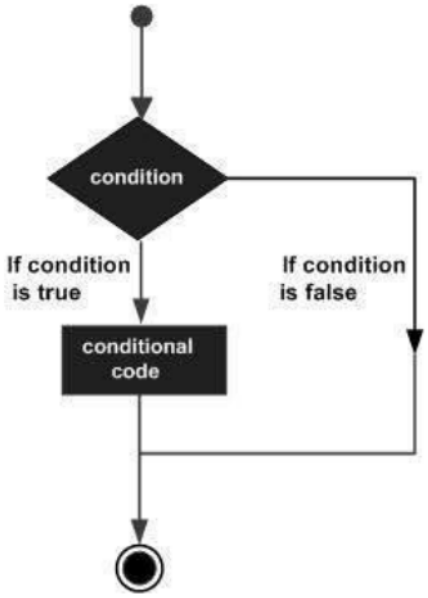


Fig 3.2

4.2.5 Loops

There will be occasions where you need to run a block of code many times. In general, statements are executed in the following order: the first statement in a function is executed first, then the second, and so on.

A loop statement helps one to execute a statement or series of statements several times. The basic form of a loop statement in VBScript is as follows.

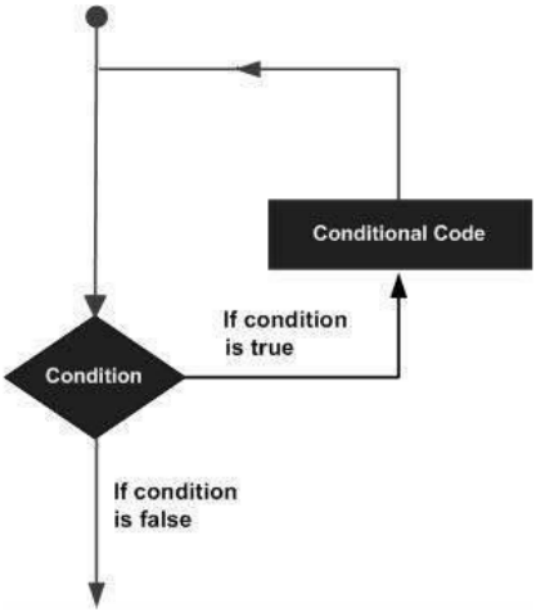


Fig 3.3

4.2.6 Strings

Strings are a series of characters that may include alphabets, numbers, special characters, or both of them. If a variable is enclosed in double quotes " ", it is assumed to be a string.

Syntax:

variablename = "string"

Example:

```
str1 = "string"    ' Only Alphabets
str2 = "132.45"    ' Only Numbers
str3 = "!@#$;*"    ' Only Special Characters
Str4 = "Asc23@#"   ' Has all the above
```

4.2.7 Array

Arrays are declared in the same manner as variables are, with the exception that array variables are declared using parenthesis. The size of the array is indicated in brackets in the following case.

```
'Method 1 : Using Dim
Dim arr1() 'Without Size

'Method 2 : Mentioning the Size
Dim arr2(5) 'Declared with size of 5

'Method 3 : using 'Array' Parameter
Dim arr3
arr3 = Array("apple","Orange","Grapes")
```

4.2.8 Functions

A feature is a collection of interchangeable code that can be called from anywhere in the application. This removes the need to rewrite the same code over and over. This allows programmers to break down a large programme into a series of small and manageable tasks. Aside from the built-in features, VBScript encourages us to build our own.

```
<!DOCTYPE html>
<html>
   <body>
      <script language = "vbscript" type = "text/vbscript">
         Function Functionname(parameter-list)
            statement 1
            statement 2
            statement 3
            .......
            statement n
         End Function

      </script>
   </body>
</html>
```

Fig 3.4

4.2.8.1 Procedures

There are few distinctions between sub-procedures and functions.

- Sub-procedures ARE NOT PERMITTED Functions must return a value, while functions may or may not return a value.
- Sub-procedures may be named without the use of the call keyword.
- Subprocedures are often surrounded by Sub and End Sub sentences.

To trigger a Method later in the document, simply write the name of the procedure, with or without the Call keyword.

```
<!DOCTYPE html>
<html>
   <body>
      <script language = "vbscript" type = "text/vbscript">
         Sub sayHello()
            msgbox("Hello there")
         End Sub
         sayHello()

      </script>
   </body>
</html>
```

Fig 3.5

4.2.9 Regular Expressions

Regular Expressions are a collection of characters that form a template and are mostly used for search and replace. The aim of making a pattern is to align particular strings in order for the creator to remove characters depending on conditions and substitute specific characters.

The match pattern serves as a basis for testing another string, the search string, for a matching sub-string. The match pattern series, in its most basic form, is simply a series of characters that must be paired, such as path names and Internet URLs. As a result, the RegExp object is commonly used to validate data for proper syntax and type.

Making use of a RegExp Object:

Create a RegExp object and set the match pattern to validate a search string against a match pattern. Then, to check for a match, use the.Test tool. As an example:

```
Dim oRE, bMatch
Set oRE = New RegExp
oRE.Pattern = "fred"
bMatch = oRE.Test("His name was fred brown")
```

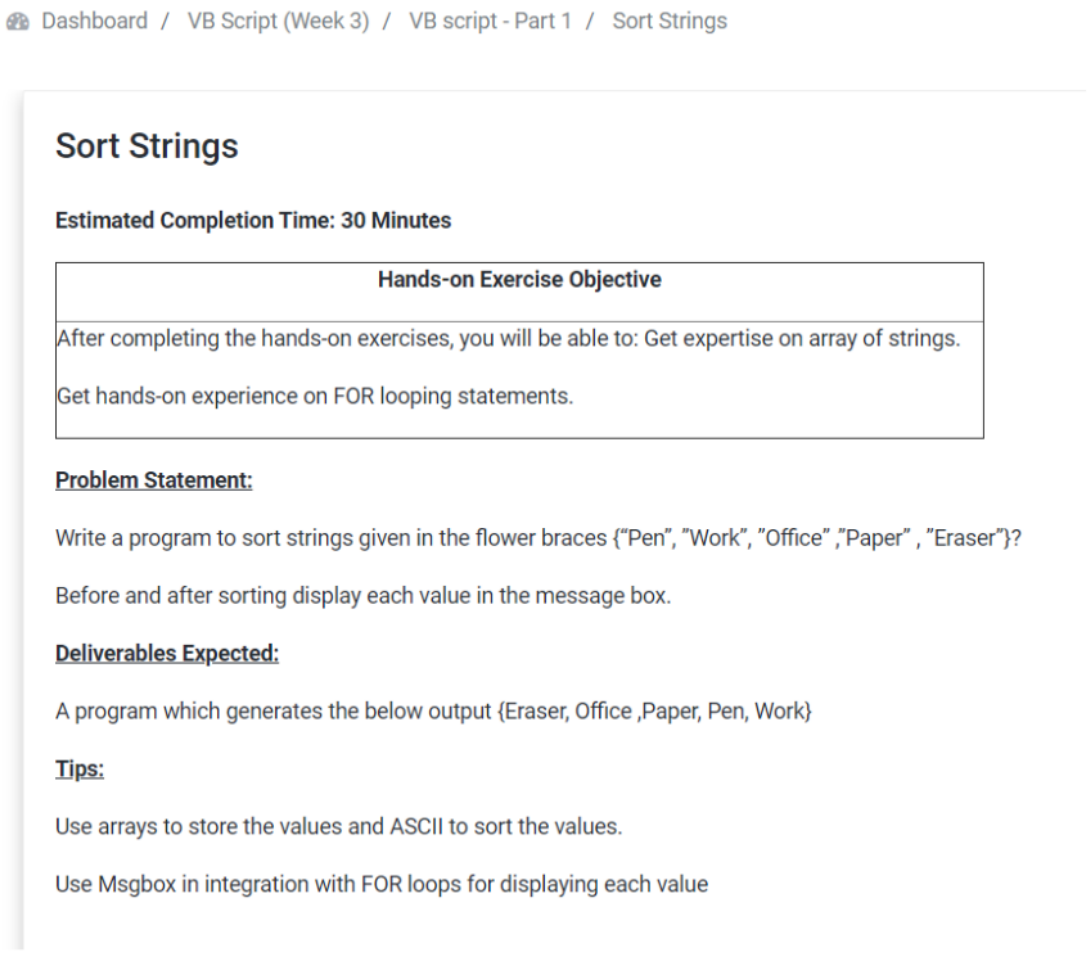
Fig 3.5

4.3 Summary and Learning

The techniques and tools mentioned in this chapter were implemented by me in week 3 of the HC Facet uft learning path. . I not only got theoretical knowledge during this period, but also solved various assignments and tasks regularly to gain hands on experience of what I learned in this time period.

Below are some of the snapshots of the hands on done by me :

Sorting string in vbscript:



Dashboard / VB Script (Week 3) / VB script - Part 1 / Sort Strings

Sort Strings

Estimated Completion Time: 30 Minutes

Hands-on Exercise Objective
After completing the hands-on exercises, you will be able to: Get expertise on array of strings. Get hands-on experience on FOR looping statements.

Problem Statement:

Write a program to sort strings given in the flower braces {"Pen", "Work", "Office" ,"Paper" , "Eraser"}?

Before and after sorting display each value in the message box.

Deliverables Expected:

A program which generates the below output {Eraser, Office ,Paper, Pen, Work}

Tips:

Use arrays to store the values and ASCII to sort the values.

Use Msgbox in integration with FOR loops for displaying each value

15
Fig 3.6

Feedback

Grade	100.00 / 100.00
Graded on	Tuesday, 11 May 2021, 11:43 PM
Graded by	ARUNKUMAR SELLAPANDIYAN

Fig 3.7

Display Date in Specific Format

Estimated Completion Time: 30 Minutes

Hands-on Exercise Objective
After completing the hands-on exercises, you will be able to: date functions

Problem Statement:

Write a program to display the current date in the following formats:

1. DD/MM/YYYY
2. MM/DD/YYYY
3. DD-MMM-YYYY
4. DD/MMM/YYYY
5. DD-MM-YYYY

Deliverables Expected:

Single Message box, which should show the current date in the above mentioned formats

Tips:

Use date functions.

Fig 3.8

Feedback

Grade	100.00 / 100.00
Graded on	Tuesday, 11 May 2021, 8:51 PM
Graded by	ARUNKUMAR SELLAPANDIYAN

Fig 3.9

Regular Expression Match

Estimated Completion Time: 20 Minutes

Hands-on Exercise Objective
After completing the hands-on exercises, you will be able to: Create and use Regular Expression Objects

Problem Statement:

Write a Regular expression match for the expression Inbox (N) where N can by any positive integer.

If N= 0 then only "Inbox" will be displayed, braces will not be displayed. Examples: Inbox, Inbox(3), Inbox(100)

Deliverables Expected:

Proper output and without any error message.

Fig 3.10

Feedback

Grade	100.00 / 100.00
Graded on	Monday, 10 May 2021, 9:16 PM
Graded by	ARUNKUMAR SELLAPANDIYAN

Fig 3.11

This concluded the assignments for week 3. After successful completion of these assignments, an online proctored assessment was held.

Chapter 5

Conclusion

Currently I have completed 7 weeks of my HC Facet with UFT training program in Cognizant Technology Solutions. Figure 5.1 marks the completion of my two checkpoint. During this period, I have learnt about Software testing, SQL, XML, JSON, VBscript and UFT. The learning was not only theoretical, but was accompanied with various hands-on exercises and assessments. The green mark on the figure shows successful completion of the hands-on exercises and the assessments with more than 90% grade.

Fig4.1

There are total 9 weeks in the complete training path. In the upcoming weeks I will learn more about UFT and HC Facets and also complete a major project and hackathon. Currently, I have completed one mini project submitted for grading. After the successful submission of these projects, I will be offered a full-time role in the organization.

REFERENCES

1. The Complete 2021 Software Testing Bootcamp

   Course Link

2. SQL for Beginners: Learn SQL using MySQL and Database Design
   https://cognizant.udemy.com/course/sql-for-beginners-course/

3. Learn API Technical Writing: JSON and XML for Writers
   https://cognizant.udemy.com/course/api-documentation-1-json-and-xml/

4. VBScripting Fundamentals
   https://cognizant.udemy.com/course/vb-scripting-fundamentals/

5. Tutorialspoint VBscripting
   https://www.tutorialspoint.com/vbscript/

171324_CondensedSem_TRAINING_REPORT.docx

ORIGINALITY REPORT

22%	12%	0%	15%
SIMILARITY INDEX	INTERNET SOURCES	PUBLICATIONS	STUDENT PAPERS

PRIMARY SOURCES

1	www.tutorialspoint.com Internet Source	8%
2	Submitted to Jaypee University of Information Technology Student Paper	3%
3	Submitted to Asia Pacific University College of Technology and Innovation (UCTI) Student Paper	1%
4	developer.mozilla.org Internet Source	1%
5	Submitted to Higher Education Commission Pakistan Student Paper	1%
6	Submitted to Anglia Ruskin University Student Paper	1%
7	Submitted to South Thames College Student Paper	1%
8	www.digitalocean.com Internet Source	1%

9	www.ir.juit.ac.in:8080 Internet Source	1 %
10	Submitted to Colorado Technical University Online Student Paper	1 %
11	Submitted to Melbourne Institute of Technology Student Paper	1 %
12	Submitted to College of Engineering, Pune Student Paper	<1 %
13	Submitted to De Montfort University Student Paper	<1 %
14	Submitted to Softwarica College of IT & E-Commerce Student Paper	<1 %
15	portal.dl.saga-u.ac.jp Internet Source	<1 %
16	www.scribd.com Internet Source	<1 %
17	orca.cf.ac.uk Internet Source	<1 %
18	Submitted to NCC Education Student Paper	<1 %

Exclude quotes	On	Exclude matches	< 14 words
Exclude bibliography	On		

JAYPEE UNIVERSITY OF INFORMATION TECHNOLOGY, WAKNAGHAT

PLAGIARISM VERIFICATION REPORT

Date: .....24-06-2021.....

Type of Document (Tick): PhD Thesis | M.Tech Dissertation/ Report | B.Tech Project Report | Paper

Name: Ritvik Chauhan **Department:** CSE **Enrolment No** 171324

Contact No. 7018169322 **E-mail.**ritvikchauhan785@gmail.com

Name of the Supervisor: Dr. Vivek Sehgal

Title of the Thesis/Dissertation/Project Report/Paper (In Capitalletters): HC FACET WITH UFT:

COGNIZANT INTERNSHIP

UNDERTAKING

I undertake that I am aware of the plagiarism related norms/ regulations, if I found guilty of any plagiarism and copyright violations in the above thesis/report even after award of degree, the University reserves the rights to withdraw/revoke my degree/report. Kindly allow me to avail Plagiarism verification report for the document mentioned above.

Complete Thesis/Report Pages Detail:

- Total No. of Pages = 42
- Total No. of Preliminary pages =8
- Total No. of pages accommodate bibliography/references = 1

(Signature of Student)

FOR DEPARTMENT USE

We have checked the thesis/report as per norms and found **Similarity Index** at **22**(%). Therefore, we are forwarding the complete thesis/report for final plagiarism check. The plagiarism verification report may be handed over to the candidate.

(Signature of Guide/Supervisor) **Signature of HOD**

FOR LRC USE

The above document was scanned for plagiarism check. The outcome of the same is reported below:

Copy Received on	Excluded	Similarity Index (%)	Generated Plagiarism Report Details (Title, Abstract & Chapters)	
	• All Preliminary Pages • Bibliography/Images/Quotes • 14 Words String	22	Word Counts	
Report Generated on			Character Counts	
		Submission ID	Total Pages Scanned	
			File Size	

Checked by
Name & Signature **Librarian**

Please send your complete thesis/report in (PDF) with Title Page, Abstract and Chapters in (Word File)

through the supervisor at plagcheck.juit@gmail.com