TRAINING REPORT

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

In COMPUTER SCIENCE ENGINEERING
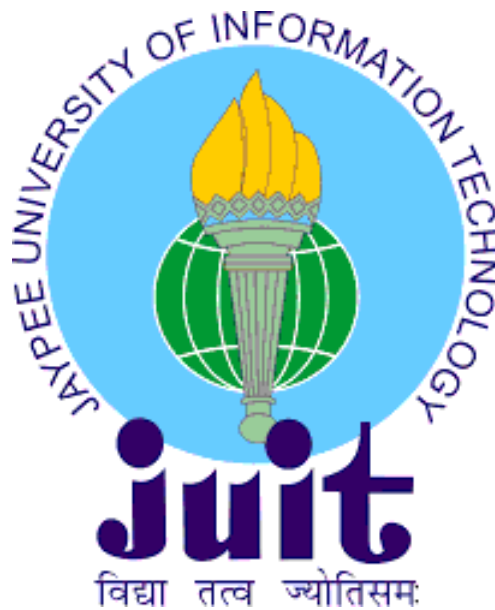
Under the supervision Of

Cognizant

By:-
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171229

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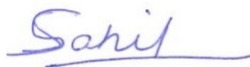Solan-173234, Himachal Pradesh**

Project Report Undertaking

I   **SAHIL SARDANA**, Roll No.: **171229**, Branch- **Computer Science and Engineering** am doing my internship with **CognizantTechnology Solutions** from **1st April 2021** to **11th June 2021**.

According to the procedure, I have to submit my project report to the university regarding the work that I have been doing during this internship.

My project report has been compiled, but due to the ongoing COVID-19 situation, my project mentor in the company is unable to sign my project report.

So, I hereby declare that the designing and development of the entire project has been done by me and no part of the work has been borrowed or purchased from any agency. Also, I'll produce a certificate/document of the completion of my internship with the company to TnP Cell whenever this COVID-19 situation gets back to normal.

Sahil

Sahil sardana

171229

22 May, 2021

<u>Acknowledgement</u>

I am highly indebted to all the members of the **Computer Science Department, Jaypee University of Information Technology** for providing me with this wonderful opportunity to work under this company. Also, to **Cognizant,** for their steerage and constant supervision, as well as providing the necessary data related to the project, and additionally for all the support they have provided me for completing this project.

Furthermore, I would also like to express my gratitude towards Mr. Surjeet Singh, as the project Supervisor and my technical instructors from **Cognizant**, for their kind co-operation and encouragement, an for assisting me in completion of this project and giving me such time and attention.

DESCRIPTION OF THE COMPANY

Cognizant

Cognizant is an American company with multinational technology, that provides various services like information technology, business consulting and outsourcing services.

Its headquarters are located in Teaneck, NewJersey, United States.

It has been ranked amongst the top providers for data and Artificial Intelligence services, and transforming clients' business, operating and technology models for the digital era. On its 2021 rankings **LinkedIn** ranked Cognizant #2 in India. LinkedIn also stated that the Top Companies are investing in employee success, career development, and equity and inclusion to ensure they continue to be among the best workplaces for employee growth now, and in a post-pandemic world.

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 using MySQL database. Further, learn Database Design and Data Analysis 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

<u>Contents</u>

Chapter 3: Data source

Chapter 4: VBScript

Chapter 5: Conclusion

x

Chapter 1

Introduction

1. About the training

The training commenced on 1st March,2021 and is expected to finish by 11thJune,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 9weeks. 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.

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 :-

It is an important concept because if such a case arises, where there are any kind of bugs or mistakes in the product, it is better if they may be recognized in the early stages and can be addressed before the conveyance of the product item. A programming item that has been appropriately tried guarantees dependability, security as well as superiority, which further results in efficiency, cost adequacy and the consumer's loyalty. Testing is very significant on the grounds that product bugs could further turn out to be expensive or even perilous. They are capable of possibly causing money related and human affliction, and history is filled with such models.

Following are some examples-

•   Vulnerability in Windows 10- This bug empowers clients to get away from security sandboxes through a flaw present in the win32k framework.

•   In 2015, military aircraft F-35 surrendered to a product bug, which made it incapable of distinguishing the targets effectively.

•   China Airlines Airbus A300 got slammed on April 26, 1994, because of a product bug, causing 264 casualties of civilians

•   In 1985, Canada's Therac-25 radiation treatment machine tumbled down because of a programming bug and forwarded deadly radiation dosages to patients, leading to the death of 3 individuals, and fundamentally harming 3 others.

•   In April of 1999, a product bug caused the disappointment of a $1.2 billion military satellite dispatch, which became the costliest mishap in history.

•   In May of 1996, a product bug caused the financial balances of almost 823 clients of a rather significant bank in the U.S., to be credited with 920 US million dollars.
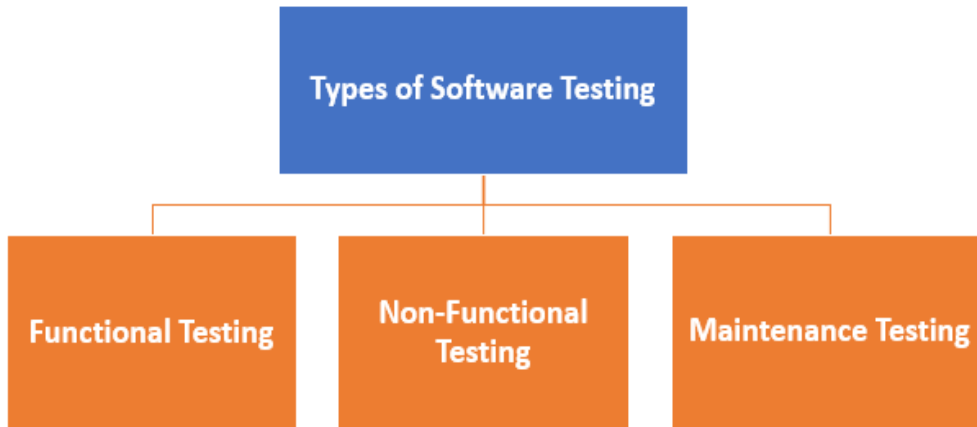
Figure 1. 1Functional Testing types

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 objective of doing testing is to find out errors, spaces, and any requirements that are when compared to the set of requirements that are actually needed. 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

The way toward checking the usefulness of an application according to the client needs without taking any assistance of robotization devices is known as manual testing. While playing out the manual testing on any application, we needn't bother with a particular information on any testing apparatus, as opposed to have a legitimate comprehension of the item so we can without much of a stretch set up the test record.
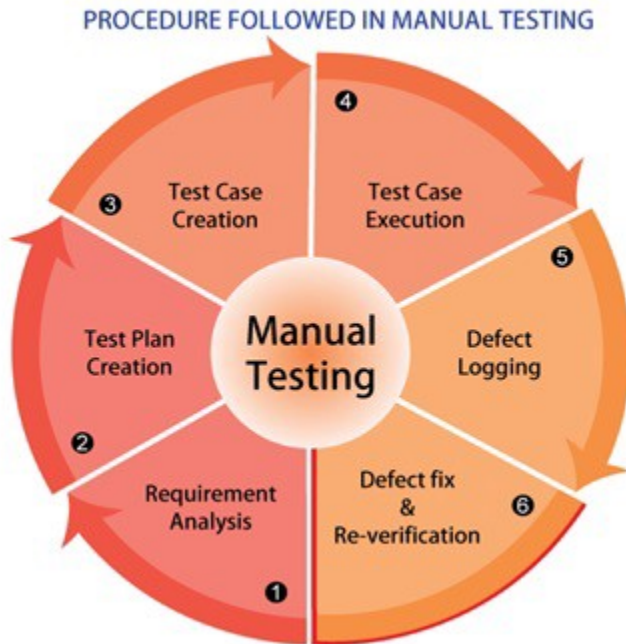
Fig.1.2

2.2 Agile 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 capacity of a specific programming application is confirmed with the predetermined necessities. This testing is just worried about the elements of a product and isn't at all worried about the source code. Test input is utilized in this kind of testing for testing the usefulness of the product. This testing intends to check UI, security, customer and worker application and usefulness of s programming that is under test stage.

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.

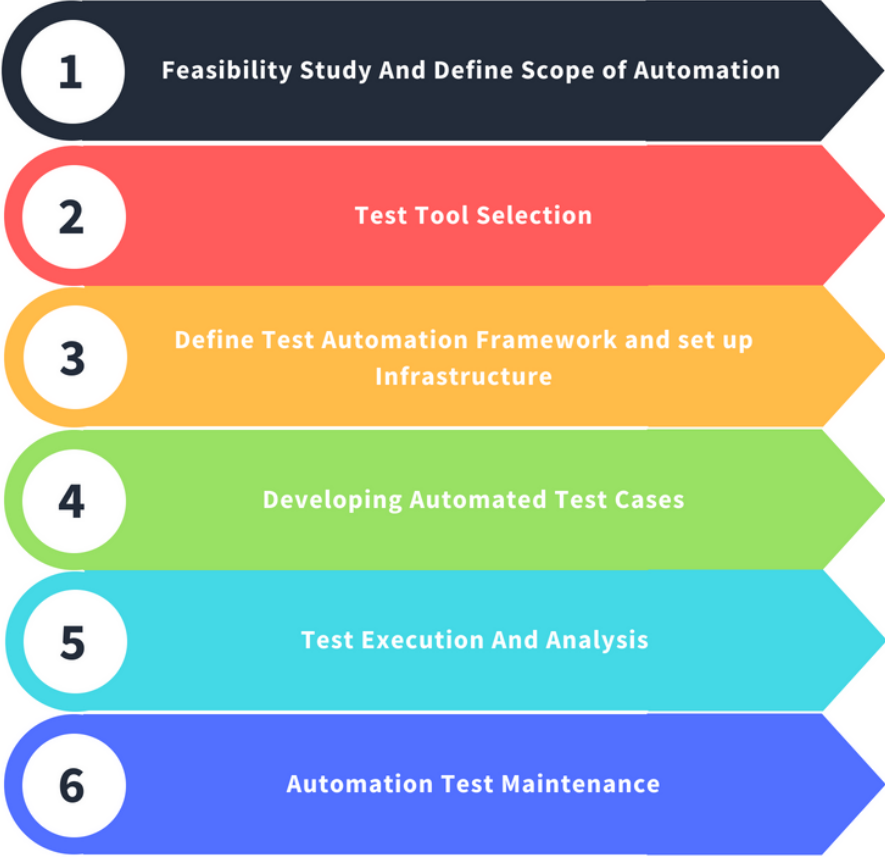| 1 | Feasibility Study And Define Scope of Automation |
2	Test Tool Selection
3	Define Test Automation Framework and set up Infrastructure
4	Developing Automated Test Cases
5	Test Execution And Analysis
6	Automation Test Maintenance

Fig 1.3

2.5 Performance Testing

This sort of testing is otherwise called Perf Testing. This testing investigations quality and capacity of a product. In this testing, the fundamental point is to check whether the product applications are performing and working appropriately or not. In this testing, execution of a specific programming is resolved as far as security, affectability and reactivity. The principle utilization of this testing is for eliminating any presentation blockage and it additionally centers around upgrading the product before its total turn of events.

2.6 API Testing

Application Programming Interface (API) includes conventions, apparatuses and schedules set and determines how various segments are collaborating with one another. This kind of testing is performed for API assortment that will be tried. This testing confirms the conduct of API by considering conditions like records and other fringe gadgets. In this testing, necessities are checked like security, execution, and usefulness.

2.7 Mobile Testing

Mobile testing is the act of testing applications for convenient cell phones for unwavering quality, convenience, and exactness. Cell phone checking can be either programmed or manual. Portable testing is a necessity of all item improvement measures before an application is submitted to the general population. This move ensures that the completed item functions admirably during the client assistance venture.

2.8 Test Case

It is a group of actions executed to verify a specific feature or functionality of your software application. It contains test steps, test data, precondition, post condition developed for specific test scenario to verify any requirement. It includes particular variables or conditions, with the help of which a testing engineer can compare expected and actual results to figure out whether a software product is functioning as per the requirements of the customer or not.
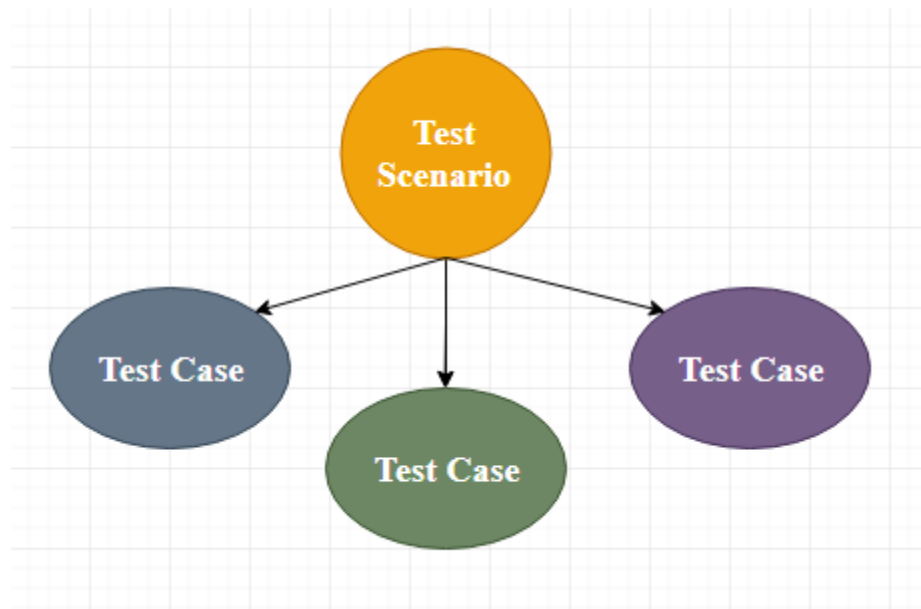
Fig1.4

It is an in-subtleties report that contains every conceivable info (positive just as negative) and the route steps, which are utilized for the test execution measure. Composing of experiments is a one-time endeavor that can be utilized later on at the hour of relapse testing.

Experiment gives point by point data about testing system, testing interaction, preconditions, and anticipated yield. These are executed during the testing interaction to check whether the product application is playing out the assignment for that it was created or not.

Experiment assists the analyzer in imperfection announcing by connecting deformity with experiment ID. Itemized experiment documentation functions as a full verification monitor for the testing group since, supposing that designer missed something, at that point it very well may be found during execution of these full-confirmation experiments.

To compose the experiment, we should have the prerequisites to determine the data sources, and the test situations should be composed so

we don't pass up any highlights for testing. At that point we ought to have the experiment layout to keep up the consistency, or each test engineer follows a similar way to deal with set up the test archive.

For the most part, we will compose the experiment at whatever point the designer is occupied recorded as a hard copy the code.

We will compose the test for the accompanying reasons:

o   To require consistency in the experiment execution

o   To ensure a superior test inclusion

o   It relies upon the cycle as opposed to on an individual

o   To try not to prepare for each new test engineer on the item

Test Case Template:-

Steps no	Description	Inputs	Expected result	Actual results	Status	Comments
	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				
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 t	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 t	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

It is a strategy of program testing which analyzes the usefulness of programming without peering into its inner design or coding. The essential wellspring of discovery testing is a particular of necessities that is expressed by the client.

In this technique, analyzer chooses a capacity and gives input worth to look at its usefulness, and checks if the capacity is giving anticipated yield. In the event that the capacity produces right yield, it is passed in testing, in any case fizzled. The test group reports the outcome to the improvement group and afterward tests the following capacity. Subsequent to finishing testing, everything being equal, assuming there are serious issues, it is rewarded the advancement group for remedy.
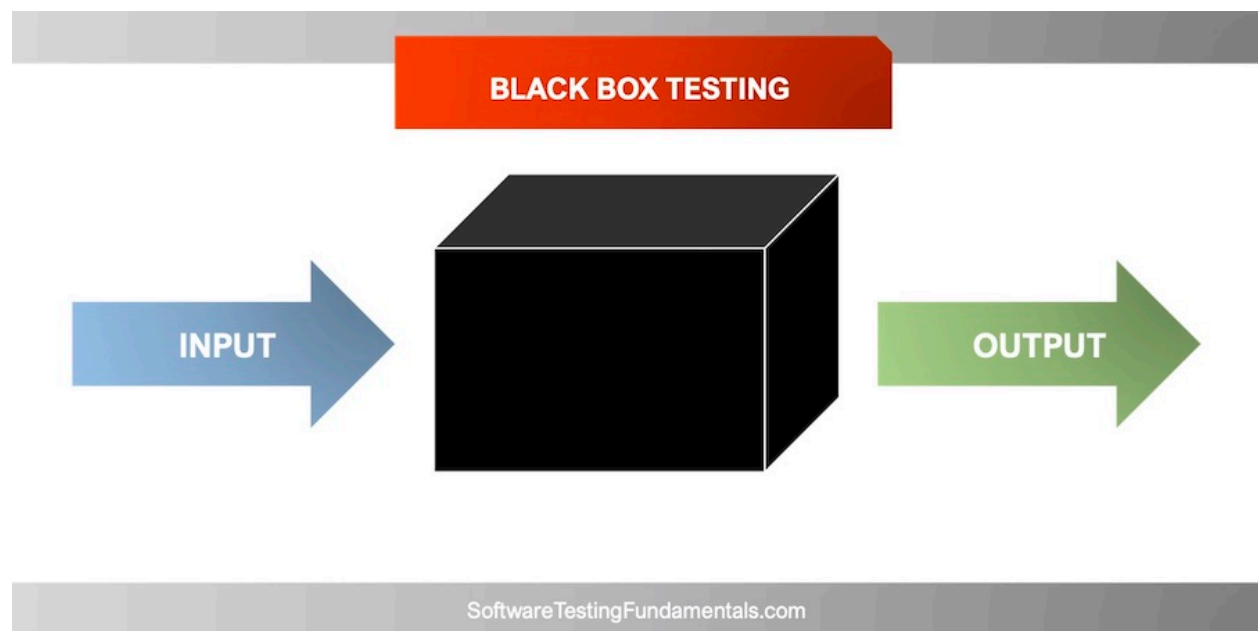

Fig1.6

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.

Figure 1.7: Grading of testing assignment.

Chapter 3

Data Source

3.1 Introduction

A data source, with respect to software engineering and PC applications, is that area where the information being utilized comes from. In a data set administration framework, the necessary source of information is the data set, which can be placed in a circle or a distant worker. The information hotspot for a PC program can be an information sheet, a document, a bookkeeping page, an XML record or it can even be the hard-coded information present inside the program.

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

SQL is a data set coding which is intended for the recovery and the executives of information in a social data set. SQL here stands for Structured Query Language. This instructional exercise will offer you a speedy start to SQL. It covers the vast majority of the themes needed for a fundamental comprehension of SQL and to get a vibe of how it functions.

Applications of SQL:

As mentioned before, it is one amongst the foremost widely used query languages over the databases. I will list few of them here:

•   It allows clients to get to details/information in the social data set administration frameworks.

•   It allows the clients to depict the information.

•   It allows clients to characterize the information present in a data set and then control that information.

•   It allows the client to install inside the various dialects utilizing the SQL modules, libraries and the pre-compilers.

•   It allows clients to make and as well as drop information bases and tables.

•   It allows clients to make see, put away strategy, capacities within a data set.
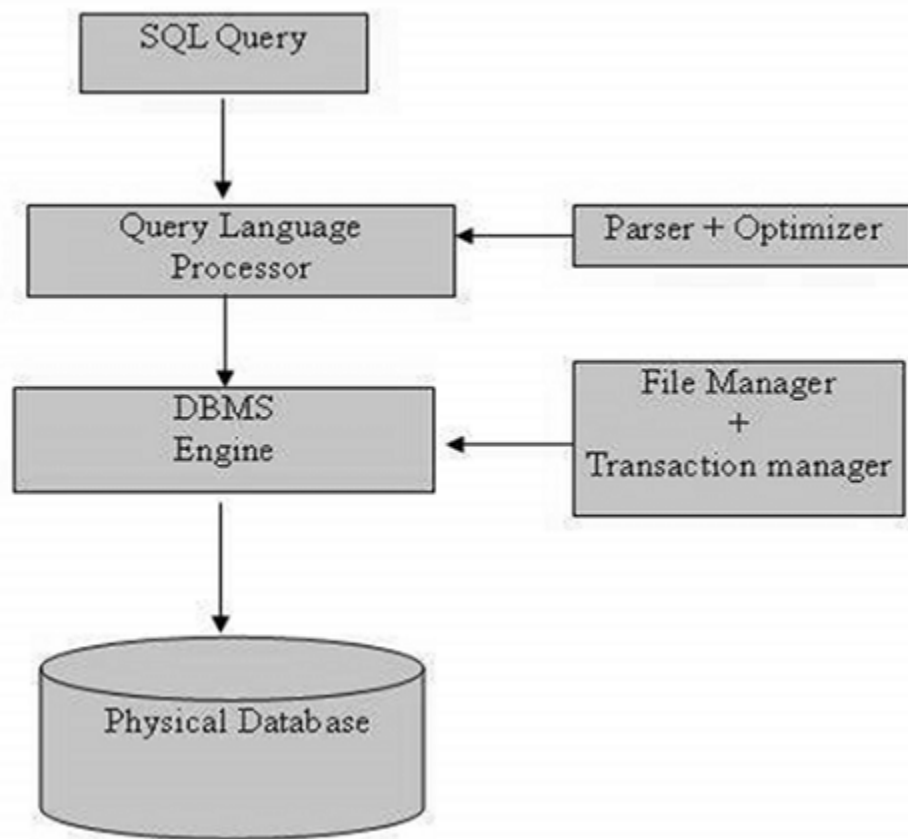
Fig 2.1

3.2.1 SQL Commands

The typical SQL commands that are used to interact with relational databases are CREATE, SELECT, INSERT, UPDATE, DELETE and DROP. These commands can further be labelled into the following groups based on their nature-

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 also a markup language just like HTML, yet without the predefined labels to utilize. All things considered, you characterize your own labels planned explicitly for your requirements. This is an amazing method to store information in an arrangement that can be put away, looked, and shared. Above all, since the essential organization of XML is normalized, in the event that you share or send XML across frameworks or stages, either locally or over the web, the beneficiary can in any case parse the information due to the normalized XML language structure.

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 lightweight book based open standard intended for comprehensible information trade. The JSON design was originally determined by Douglas Crockford, and is depicted in RFC 4627. The authority Internet media type for JSON is application/json. The JSON filename expansion is .json. This instructional exercise will assist you with understanding JSON and its utilization inside different programming dialects like PHP, PERL, Python, Ruby, Java, and so on

3.4.1 Syntax and Structure

A JSON object is basically a key-value data format that is generally rendered in curly braces. When you're working with JSON, you are likely see JSON objects in a .json file, but they can even exist as a JSON object or a string within the context of that program.

It looks something like this:

```
{
"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.)
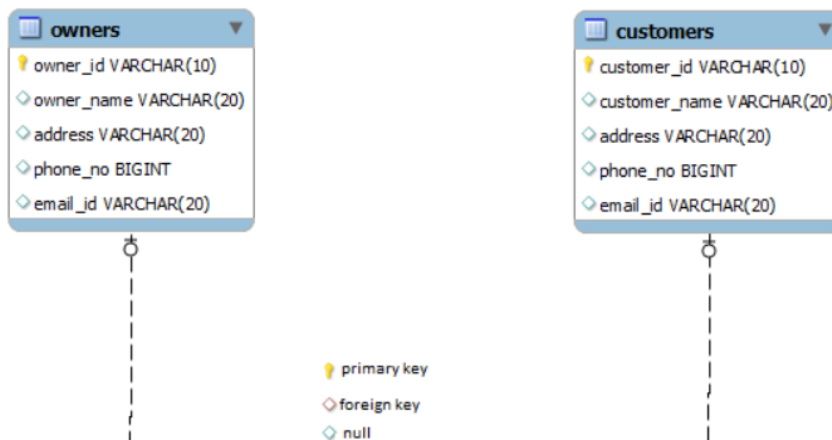**NOTE: Maintain the same sequence of column order, as specified in the question description**

Fig 2.6

Description   Code Editor   **Grading view**

Submission Status

Submitted By	Ritvik Chauhan
Grade Acheived	100
Due Date	—
Last Submitted on	Monday, 12 April 2021, 1:24 PM
Download Submitted File	Download
Download Submission Feedback	No Feedback Available
Download Auto Evaluation Feedback	Evaluate your code to generate feedback

query.sql

```sql
1 select cars.car_id,cars.car_name,cars.car_type from cars
2 left join rentals on cars.car_id=rentals.car_id
3 where rentals.car_id is null
4 order by car_id;
```

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

```xml
1 <Hotels>
2    <Hotel id='1'>
3       <Name>TAJ GANJ</Name>
4       <Stars>3</Stars>
5       <Facilities>Restaurant,Parking,Internet</Facilities>
6       <Address>TajGanj,Fatehbad Road Agra Uttar Pradesh 282001</Address>
7       <Type>Budget</Type>
8       <Available>True</Available>
9    </Hotel>
10   <Hotel id='2'>
11      <Name>TAJ EXOTICA</Name>
12      <Stars>5</Stars>
13      <Facilities>Indian therapies,Yoga and meditation,spaindulges,Parking</Facilities>
14      <Address>CalwaddoBenaulim,Salcete Goa 403716</Address>
15      <Type>Luxury</Type>
16      <Available>False</Available>
17   </Hotel>
18   <Hotel id='3'>
19      <Name>VIVANTA by TAJ</Name>
20      <Stars>3</Stars>
21      <Facilities>Parking,Restaurant,Internet,Chinese Restaurant,Party Lawn</Facilities>
22      <Address>105,Race Course Road Coimbatore TamilNadu 641018</Address>
23      <Type>Medium Luxury</Type>
24      <Available>True</Available>
25   </Hotel>
26   <Hotel id='4'>
27      <Name>TAJ DECCAN</Name>
28      <Stars>4</Stars>
29      <Facilities>Parking,Fitnesscenter,Meetingrooms,Private,dining for party</Facilities>
30      <Address>Road No. 1,Banjara Hills Hyderabad Telangana State 500034</Address>
31      <Type>Budget</Type>
32      <Available>True</Available>
33   </Hotel>
34   <Hotel id='5'>
35      <Name>TAJ BEKAL RESORT</Name>
36      <Stars>4</Stars>
37      <Facilities>Spa,Internet,Yoga and meditation,parking,internet</Facilities>
38      <Address>Kappil Beach Kasargod Kerala 671319</Address>
39      <Type>Luxury</Type>
40      <Available>False</Available>
41   </Hotel>
42 </Hotels>
43
44
```

Fig 2.9

Grade

Reviewed on Thursday, 15 April 2021, 11:50 AM by Automatic grade
Grade 100 / 100
Assessment report
[+]Summary of tests

Fig 2.10

This was the end of the Data 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) is created by Microsoft determined to foster unique site pages. It is customer side prearranging language like JavaScript. VBScript is a light form of Microsoft Visual Basic. The grammar of VBScript is basically the same as that of Visual Basic. In the event that you need your website page to be all the more energetic and intelligent, you can join VBScript in your code.

VBScript is just a setting up language. Subsequently, it can't run its code in isolation. It needs a more prominent programming language to have it.

VBScript represents Visual Basic Scripting that frames a subset of Visual Basic for Applications (VBA). VBA is a result of Microsoft which is incorporated NOT just in other Microsoft items, for example, MS Project and MS Office yet in addition in Third Party devices like AUTO CAD.

Features of VBScript

•   VBScript is a lightweight prearranging language, which has a lightning quick translator.

•   VBScript, generally, is case harsh. It has a basic sentence structure, simple to learn and to carry out.

•   Unlike C++ or Java, VBScript is an item based prearranging language and NOT an Object-Oriented Programming language.

• It utilizes Component Object Model (COM) to get to the components of the climate wherein it is executing.

• Successful execution of VBScript can happen just on the off chance that it is executed in Host Environment like Internet Explorer (IE), Internet Information Services (IIS) and Windows Scripting Host (WSH)

4.2 VBscript – Version History and Uses

VBScript was presented by Microsoft route back in 1996 and its first form was 1.0. The current stable variant of VBScript is 5.8, which is accessible as a component of IE8 or Windows 7. The VBScript use territories are galore and not confined to the beneath list.

• VBScript is utilized as a prearranging language in one of the well known Automation testing devices – Quick Test Professional truncated as QTP

• Windows Scripting Host, which is utilized for the most part by Windows System heads for robotizing the Windows Desktop.

• Active Server Pages (ASP), a worker side prearranging climate for making dynamic pages which utilizes VBScript or Java Script.

• VBScript is utilized for Client side prearranging in Microsoft Internet Explorer.

• Microsoft Outlook Forms as a rule runs on VBScript; notwithstanding, the application level programming depends on VBA (Outlook 2000 onwards).

4.2.1 VBScript Syntax

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

<div align="center">Fig 3.1</div>

4.2.2 Declaring Variables

The variables are declared using "dim" keyword. Since there is just one fundamental data type, all the variables that are declared are variant by default. Hence, a the type of data is not required to be mentioned by the user during declaration.

4.2.3 Declaring Constants

The Constant can be of two types, namely Public or Private. The use of Public or Private is completely optional. The Public constants are available for all the scripts and procedures while the Private Constants are available within the procedure or Class. Any value can be assigned, like number, string or date to the constant that has been declared.

4.2.4 Decision making

It allows programmers to regulate the execution flow of a script or one of its many sections. The execution is monitored by one or more conditional statements.
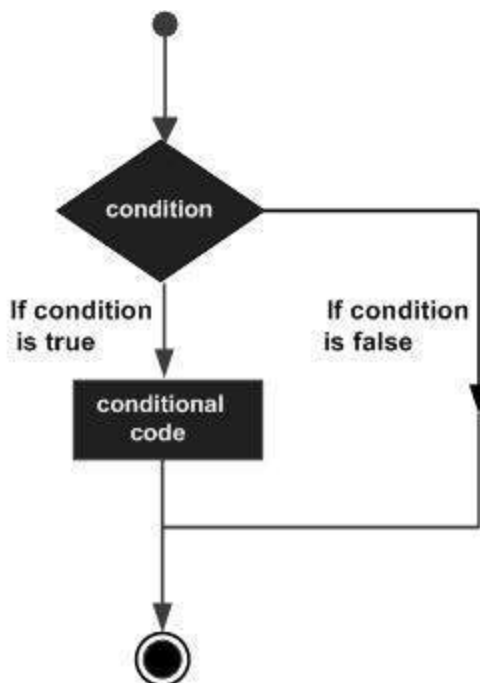

Fig 3.2

4.2.5 Loops

There might be a circumstance when you need to execute a square of code a few number of times. By and large, explanations are executed consecutively: The main assertion in a capacity is executed first, trailed constantly, etc.

A circle articulation permits us to execute an assertion or gathering of proclamations on various occasions and following is the general from of a circle explanation in VBScript.
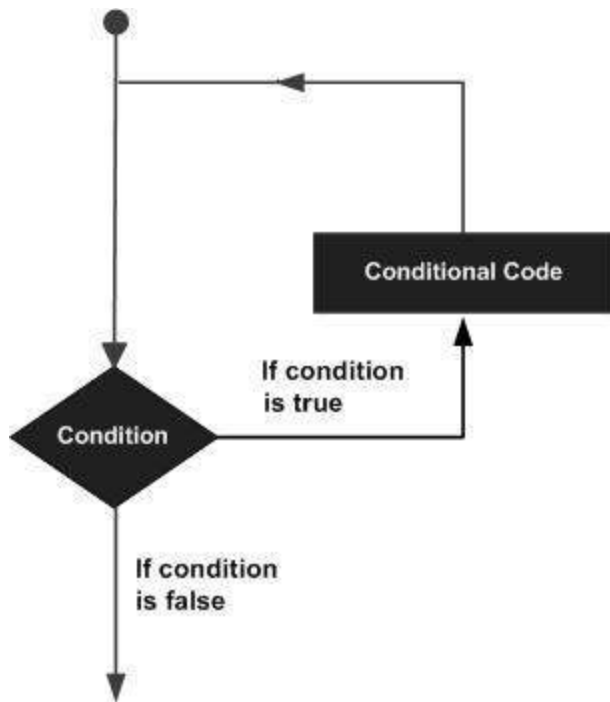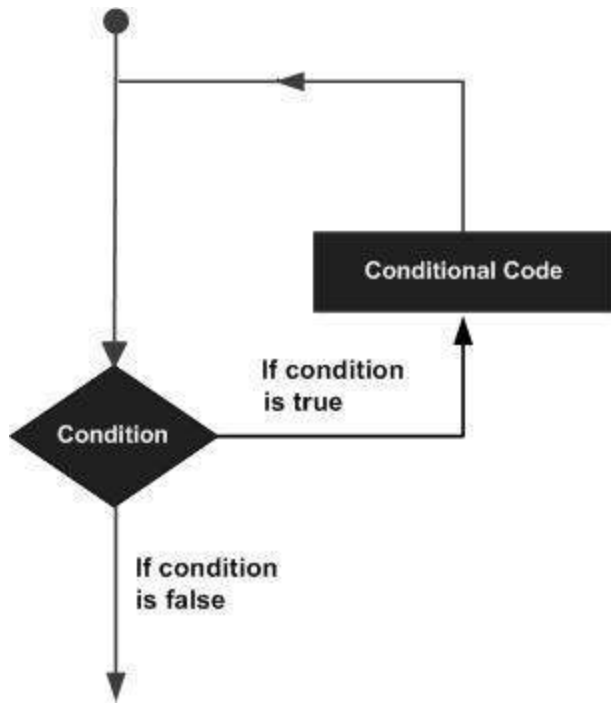
Fig 3.3

4.2.6 Strings

Strings are a group of characters, which can constitute of letters in order or numbers or extraordinary characters or every one of them. A variable is supposed to be a string on the off chance that it is encased inside twofold statements " ".

Syntax:

variablename = "string"

Example:

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

4.2.7 Array

Arrays are pronounced in a similar way in which a variable has been announced aside from that the assertion of a cluster variable uses enclosure. In the following model, the size of the exhibit is referenced in the sections.

```
'Method 1 : Using Dim
Dim arr1() 'WithoutSize

'Method 2 : Mentioning the Size
Dim arr2(5) 'Declaredwith size of5

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

4.2.8 Functions

A capacity is a gathering of reusable code which can be called anyplace in your program. This kills the need of composing same code again and again. This will empower developers to partition a major program into various little and reasonable capacities. Aside from inbuilt Functions, VBScript permits us to compose client characterized works too.

```
<!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

Sub-Procedures are like capacities however there are not many contrasts.

- Sub-techniques DONOT Return a worth while capacities might return a worth.

- Sub-methods Can be called without call watchword.

- Sub-methodology are constantly encased inside Sub and End Sub explanations.

To summon a Procedure some place later in the content, you would essentially have to compose the name of that method with or without the Call watchword.

```html
<!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 is an arrangement of characters that frames an example, which is mostly utilized for look and supplant. The reason for making an example is to coordinate with explicit strings, so the designer can remove characters dependent on conditions and supplant certain characters.

The match design gives a layout that can be utilized to test another string, the hunt string, for a coordinating with sub-string. In its least difficult structure, the match design string is only an arrangement of characters that should be coordinated, for example, way names, and Internet URLs. In this way, the RegExp object is habitually used to approve information for right structure and punctuation.

Using a RegExp Object:

To test a search string against a match pattern, create a RegExp object and set the match pattern. Then use the .Test method to test for a match. For example:

```vbscript
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:

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

Fig 3.6

xxx

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.

Schedule Variance   Checkpoint Weeks: W5 ℹ

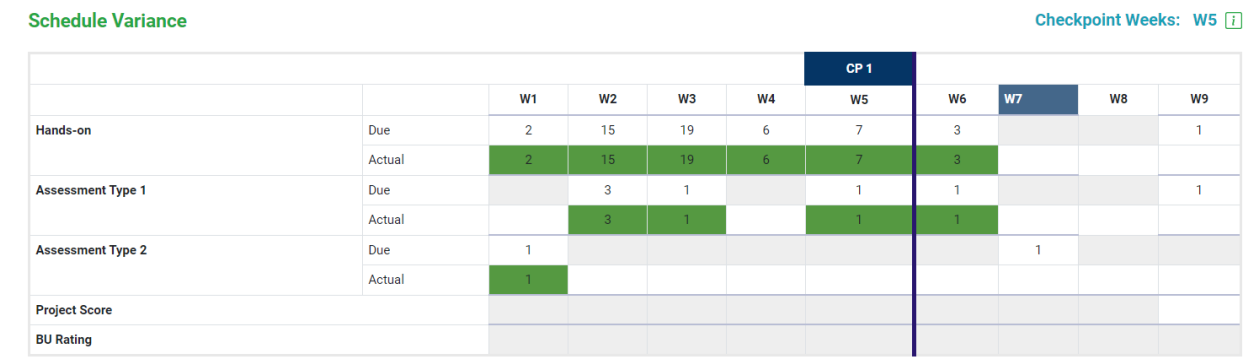|		W1	W2	W3	W4	W5 (CP 1)	W6	W7	W8	W9
Hands-on	Due	2	15	19	6	7	3			1
	Actual	2	15	19	6	7	3			
Assessment Type 1	Due		3	1		1	1			1
	Actual		3	1		1	1			
Assessment Type 2	Due	1						1		
	Actual	1								
Project Score										
BU Rating										

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.

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    [Course Link](#)

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    https://www.tutorialspoint.com/vbscript/

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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.

Sahil

Sahil Sardana

171229

22 May, 2021

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