

**MANUAL AND AUTOMATED TESTING USING
SPREADSHEET AND UNIFIED FUNCTIONAL TESTING.**

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

BACHELOR OF TECHNOLOGY

IN

ELECTRONICS AND COMMUNICATION ENGINEERING

By

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UNDER THE GUIDANCE OF

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**JAYPEE UNIVERSITY OF INFORMATION TECHNOLOGY
WAKNAGHAT**

May 2021

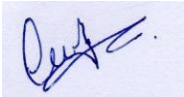
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DECLARATION

We hereby declare that the work reported in the B.Tech Project Report entitled “**Manual and Automated Testing using Spread Sheet and Unified Functional Testing**” submitted at **Jaypee University of Information Technology, Wagnaghat, India** is an authentic record of our work carried out under the supervision of Dr.Shruti Jain and **Cognizant GenC Learning**. We have not submitted this work elsewhere for any other degree or diploma.



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This is to certify that the above statement made by the candidates is correct to the best of my knowledge.



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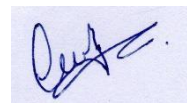
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ACKNOWLEDGEMENT

First of all, I would like to express my deep sense of respect and gratitude towards my advisor and guide **Dr. Shruti Jain**, who has been the guiding force behind this work and as well as HoD sir **Dr. Rajeev Kumar** for giving us this golden opportunity to explore such an eminent topic. I am greatly indebted to her for constant encouragement, invaluable advice and for propelling me further in every aspect of my academic life. Her presence and optimism has provided an invaluable influence on my career and outlook for the future. I consider it my good fortune to have an opportunity to work with such a knowledgeable person.

She has been great source of inspiration to me and I thank her from the bottom of my heart. I also extend thanks to all faculty members and staff of the Department of Electronics and Communication Engineering, Jaypee University of Information and Technology, Solan who have encouraged us throughout the course of Bachelors of Technology Degree.

LIST OF ACRONYMS AND ABBREVIATIONS

Abbreviation	Meaning
VBSCRIPT	Visual Basic Script
FUNC	Function
STRREVERSE	String reverse
DISP	Display
UFT	Unified Functional Testing
QTP	Quick Test Professional
URL	Uniform Resource Locator
UCASE	Upper Case
LCASE	Lower Case
CONCAT	Concatenation
REV	Reverse

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ABSTRACT

The Programmer analyst aim is to test, develop, define, analyze, test and maintain the standards of application in achieving the confidence of the business requirement. This not only require debugging of code but also testing, coding, the brief analysis of the software applications and programs, problem solving abilities and can work as team player. The Programmer Analyst should have knowledge of the Operating system, coding language like VBscript and some basic spreadsheet application like MS-Excel and Goggle Spreadsheet etc. But the main focus is on testing the functionality of the program so that the program satisfy certain parameters set by the demanding authority and respond to support tickets within a specified time frame as outlined in the IT support policy.

CHAPTER 1

INTRODUCTION

Software testing is a process to identify that the actual software or program matches the required requirements and also the program is bug free. It involves series of steps sometimes in sequential and sometimes in non-sequential manner. In this the software under observation is executed using automated or manual tools to check one or more features of interest. The main goal of software testing is to recognize missing requirement, gaps or to identify errors comparing with the ideal software. It is important as if there are any error in the program they can be rectified at early stages before sending into next phase of development or delivering it to clients. Properly tested application or software product verify security, reliability, performance and efficiency which results in the smooth transition of software which results in customer satisfaction, time saving and cost effectiveness. Software testing is important as software defects can be dangerous and expensive. Benefits of testing software are:

- **Security:** It is the most sensitive and most vulnerable benefits of testing software. As human always look for trusted quality products.
- **Quality of product:** The most essential requirement of any product which is software based. It ensures that the software product quality is maintained throughout.
- **Cost-effectiveness:** Testing software on time helps builders to save money on the long run as it takes less effort, time, and resources to fix the defect in the initial stages of development.
- **Customer satisfaction:** It is the end goal of the software tester as product designed by him should meet the standards directed to him by the client.

1.1 TYPES OF TESTING:

Testing can be classified into three types Functional, Non-Functional and Maintenance Testing

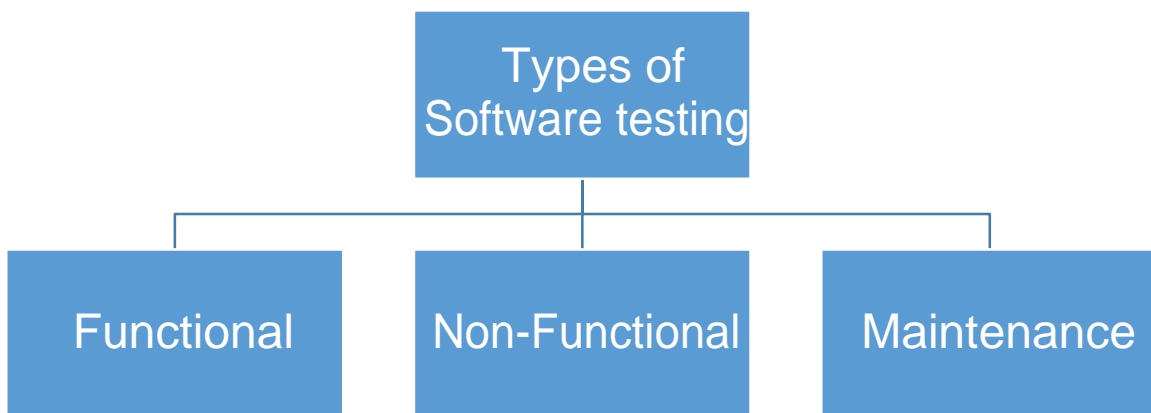


Fig.1.1 Classification of Software testing

- a) Functional testing:** In this type of testing software to be tested is validated against the functional specification/requirement. The main purpose of the functional testing is to test every function of the software by providing every possible inputs and latter verifying the outputs obtained with certain set of results. Executing every test case so that no test case

should be left unchecked. Functional testing can be done manually by executing every possible inputs and noting the results obtained in a tabular manner or using automation tools like Unified functional testing or Selenium etc. Functional testing includes a variety of testing like Black-box testing and White-box testing etc. Results of the Functional testing are in the form of Pass or Fail where pass represents that software has passed the parameters which were inject to him during testing and fail represents that software has failed to perform on the parameters injected to him during testing phase.

The need of functional testing is to:

- Testing the mainline function: To check whether all the function defined in the software work properly without any interruptions.
- Accessibility: User accessibility across the system is tested.
- Conditions of Error: To check that suitable error message is displayed on entering the false inputs.

Steps followed during functional testing using manual testing techniques are:

1. **Writing Test scenario:** It includes all the possible inputs that can be fed to input fields and the data is tabulated in the form of spreadsheet so that it can be easily interpreted.

Module	Scenario ID	Scenario Name	Scenario Description	Requirement id
RAJ TRAVELS HOTEL BOOKING APP	TEST CASE 1	FUNCTIONALITY OF RADIO BUTTONS	EXAMINING RADIO BUTTONS	RTHP_01
	TEST CASE 2	ENTERED LOCATION	EXAMINING LOCATION	RTHP_02
	TEST CASE 3	INVALID CREDENTIALS	EXAMINING THE CREDENTIALS	RTHP_03
	TEST CASE 4	STATUS OF BOOKING AFTER ALL THE MANDATORY FIELDS HAVE BEEN FILLED	EXAMINING THE BOOKING STATUS	RTPHP_04

Fig.1.2 Test Scenario

2. **Test case:** In test case writing every inputs are tested against different set of parameters and the defect detected is noted. Every prerequisite steps is performed at every steps so that any developer can rectify that error using the prerequisites steps Expected results are matched with the actual results if there is difference between the two then it is an error which is noted down in the form of Bug.

Test Scenario ID	Test case id	Test case description	Prerequisites	Steps to execute	Expected results	Actual results	Pass/Fail
TEST CASE 1	CASE ID 1.1	TO OPEN APPLICATION	CHECKING WHETHER APPLICATION OR WEB	DEVICE MUST BE CONNECTED TO A NETWORK CONNECTION OPEN BROWSER CHROME OR FIREFOX	NETWORK IS ACTIVE	NETWORK IS ACTIVE	PASS
				VISIT THE WEBSITE http://mumbaihotel.com OR SEARCH USING SEARCH ENGINE LIKE GOOGLE OR BING etc.	BROWSER LAUNCH	BROWSER LAUNCHED SUCCESSFULLY	PASS
	CASE ID 1.2	RADIO BUTTON ACCESSIBILITY		PERFORM THE PREREQUISITES	WEBSITE OPENED IN ANY SPECIFIC BROWSER	BROWSER LAUNCHED	PASS
				EITHER OF THE TWO RADIO BUTTON MUST BE SELECTED	PREREQUISITES PERFORMED	EXECUTED	PASS
	CASE ID 1.3	CONFIRM ON SELECTING INDIA RADIO BUTTON COUNTRY FIELD IS INACTIVE		ON CLICKING INDIA RADIO BUTTON	INDIA SELECTED	INDIA SELECTED AND PLACEHOLDER OF COUNTRY	PASS
	CASE ID 1.4	CONFIRM ON SELECTING INTERNATIONAL RADIO BUTTON COUNTRY LIST IS DISPLAYED AND PLACEHOLDER OF		ON CLICKING INTERNATIONAL RADIO BUTTON	INTERNATIONAL SELECTED AND COUNTRY BOX IS DISPLAYED	INTERNATIONAL SELECTED BUT COUNTRY BOX IS NOT DISPLAYED	FAIL
TEST CASE 2	CASE ID 2.1	SELECT LOCATION AND VERIFY COUNTRY AND CITY		EXECUTE THE PREREQUISITES	PREREQUISITES PERFORMED	PREREQUISITES PERFORMED SUCCESSFULLY	PASS
	CASE ID 2.2	CLICK ON INTERNATIONAL BY CLICKING ON THE RADIO BUTTON THEN SELECT COUNTRY AS USA		COUNTRY SELECTED AS USA THE OPTIONS WHICH WILL BE SHOWN ARE : WASHINGTON, NEW YORK, CITIES WHICH WILL BE DISPLAYED ARE : CALCUTTA, MUMBAI, PUNE, BANGALORE AND DELHI ETC.	OPTIONS WHICH WILL BE SHOWN ARE : WASHINGTON, NEW YORK, CITIES WHICH WILL BE DISPLAYED ARE : CALCUTTA, MUMBAI, PUNE	OPTIONS WHICH WILL BE SHOWN ARE : WASHINGTON, NEW YORK, CITIES WHICH WILL BE DISPLAYED ARE : CALCUTTA, MUMBAI, PUNE	PASS
	CASE ID 2.3	ON THE COUNTRY LIST SELECT INDIA			CITIES WHICH WILL BE DISPLAYED ARE : MANCHESTER, LONDON, AND LIVERPOOL ETC.	CITIES WHICH WILL BE DISPLAYED ARE : MANCHESTER, LONDON, AND	PASS
	CASE ID 2.4	CLICK ON INTERNATIONAL BY CLICKING ON THE RADIO BUTTON THEN SELECT COUNTRY AS UNITED KINGDOM					PASS
TEST CASE 3	CASE ID 3.1	EXAMINING MANDATORY FILLED BEFORE THE CHECK, CHECK OUT DATE, NATIONALITY AND NUMBER OF ROOM		PERFORM THE PREREQUISITES	PREREQUISITES PERFORMED	PREREQUISITES PERFORMED SUCCESSFULLY	PASS
				REQUIRED CITY SELECTED	REQUIRED CITY SELECTED	REQUIRED CITY SELECTION SUCCESSFUL	PASS
				CLICK ON THE DROPDOWN BOX OF THE CHECK IN DATE TO SELECT DATE	CHECK IN DATE SELECTED	CHECK IN DATE SELECTED SUCCESSFULLY	PASS
				CLICK ON THE DROP DOWN BOX OF THE CHECK OUT DATE AND SELECT DATE	CHECK OUT DATE SELECTED	CHECK OUT DATE SELECTED SUCCESSFULLY	PASS
			CLICK ON THE NATIONALITY AND SELECT THE USERS NATIONALITY	NATIONALITY SELECTED	NATIONALITY SELECTED SUCCESSFULLY	PASS	
			CLICK ON NUMBER OF ROOM AND GIVE A VALID INPUT	NUMBER SELECTED	NUMBER SELECTED SUCCESSFULLY	PASS	
	CASE ID 3.2	EXAMINE THAT CHECK OUT VALUE SHOULD BE GREATER THAN THE CHECK IN VALUE		ENTER THE INPUT IN THE FORMAT OF DD-MM-YYYY	ENTERED THE INPUT CHECK IN AND CHECK OUT DATE IN THE FORMAT OF	INPUT ENTERED SUCCESSFULLY	PASS
				CHECK WEATHER CHECKOUT DATE > CHECK IN DATE	ENTERED THE INPUT CHECKOUT DATE > CHECK IN DATE	USER ENTERED CHECK IN DATE > CHECKOUT DATE	PASS
				CLICK ON SEARCH BUTTON AND EXAMINE THAT IT			PASS

Fig.1.3 Test cases

3. **Defect report:** The main part of the test case in which the defect is detected is tabulated here so that any developer can have easy access to defect and how to reproduce the defect. The cases are mentioned filled with their severity levels like Critical, Mild and low Where Critical represent that defect is serious in nature and have to be resolved immediately as this can disturb the working of whole program or software like application not working, User not able to sign in or sign up etc. Mild defects can also cause serious damage to the reliability of software so this has to reported immediately to the developer so that they can rectify the errors in them immediately like website taking time to load, Crashing of portal etc. Low level defects like placeholder do not show the enter text, alignment problems in the

structure of program or some visual defects.

Serial no	Requirement id	Requirment description	Test scenario id	Test case id	Defect id
1	RTHP_01	INDIAN OR INTERNATIONAL RADIO BUTTON	TEST CASE 1	CASE ID1.1	
			TEST CASE 1	CASE ID1.2	
			TEST CASE 1	CASE ID1.3	
			TEST CASE 1	CASE ID1.4	DEFECT ID 1
2	RTHP_02	ENTERED LOCATION	TEST CASE 2	CASE ID2.1	
			TEST CASE 2	CASE ID2.2	
			TEST CASE 2	CASE ID2.3	
			TEST CASE 2	CASE ID2.4	DEFECT ID 2
3	RTHP_03	CREDENTIALS ENTERED	TEST CASE 3	CASE ID3.1	
			TEST CASE 3	CASE ID3.2	
4	RTHP_04	ENTERED LOCATION HOTELS NOT DISPLAYED	TEST CASE 4	CASE ID4.1	DEFECT ID 4

Fig 1.4 Defect Report

b) **Non-functional Testing:** This kind of testing technique tests the non-functional aspect like usability, reliability and performance etc. This is used to test the readiness of the software under analysis on the parameters and standards which are not described by the functional testing. This kind of testing technique is often used to increase the efficiency, portability, maintainability and usability of the software. In non-functional testing the results are in the form of the range or to be more accurate in term of percentage like how well software when executed meet the desired standard set by client so there is no subjective characterization like best, better, good etc. Most common type of non-functional testing is Efficiency testing, Performance Testing, Reliability Testing and Stress Testing etc.

Non-Functional testing parameters:

- **Availability:** This is a range on which a user can rely on their product during its working.
- **Efficiency:** This defines a limit or extent to which a program or software can handle response time, quantity, and capacity.
- **Security:** This Describe how well a software is safeguarded against sudden attacks from external or internal sources.

c) **Maintenance Testing:** This type of testing is done to software which is already under use in the environment. Deployed software need be updated as new interface in which the software is running on might slow down the execution time of the software and some or

complete part of the software might not function on that device so regular maintenance testing is required. The main objective of the maintenance testing are any changes made are to be tested thoroughly, Any changes made should not affect the main functionality of the software so regression testing is done along with it.

CHAPTER 2

VISUAL BASIC SCRIPTING

It is an active scripting language developed by Microsoft. Microsoft Windows system administrator is allowed for managing computers using powerful tools. It is a combination of Java Script Language and Visual basic script language. It is generally used to design dynamic webpages. It works same as Java script and is lighter compared to Visual Basic Programming. User cannot define the datatype in advance, vbscript is an untyped language. The extension is .vbs and this is not case sensitive language.

2.1 Syntax used in VbScript:

1) Case sensitivity: Vbscript is not having case sensitivity which means it cannot differentiate between upper case and lower case letters for example department, Department and DEPARTMENT are same defined same in vbscript

2) Text string: When text is entered it must be entered in the quotation marks (“”). And there is no need to enter numerical value in quotation. Example a = “marks”, b = 10.

3) Variable: Variable are specified in vbscript to store objects, arrays, Strings, integer etc.

4) Comments: Adding comments in Vbscript is very simple just use apostrophe(‘) in the beginning of your comment.

5) Functions: There are many build in functions in vbscript which are of very useful nature for example date func is used to display date in specified format we can display todays date or some other specified date, StrReverse func is used to reverse the string which is given as the input, LCase converts string to lower case letters, UCase converts string to upper case, IsObject is used to check whether a script is object or not it returns Boolean value which is true or false etc.

6) Loops and conditional statements: Loop structure (for, while, do-while) and conditional statements (If, If else) are same as other programming languages.

2.2 Steps to create and save vbscript file:

- On account of this, First open either Microsoft code studio or notepad++.

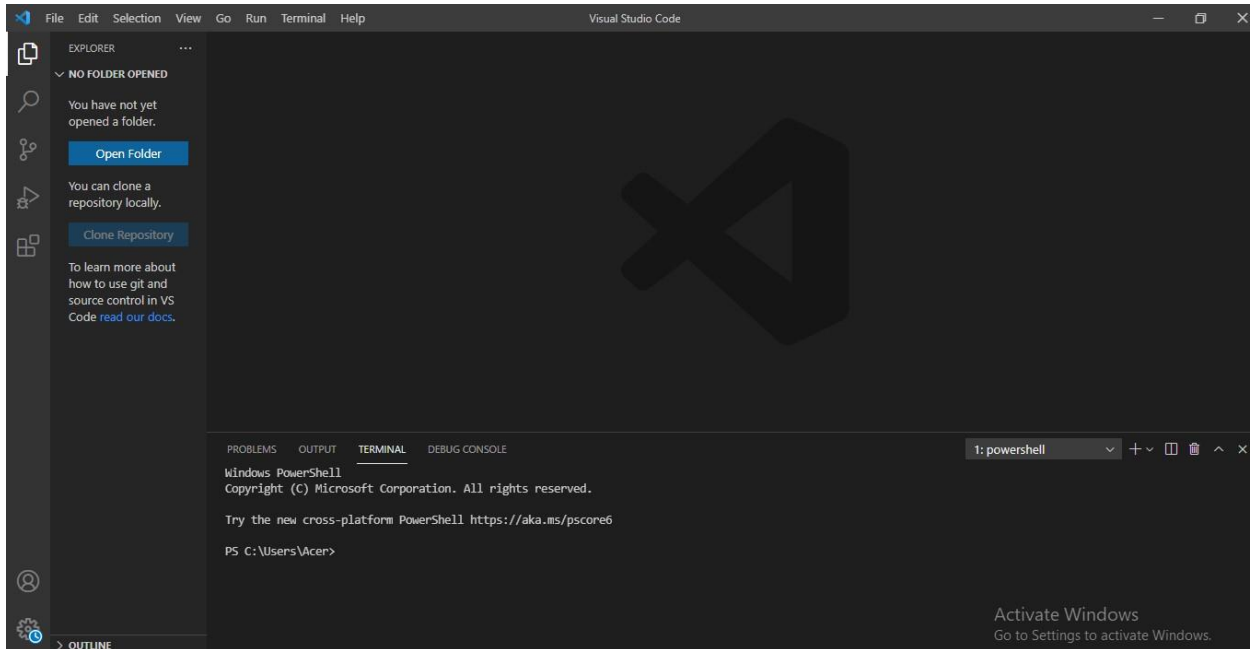


Fig 2.1 Microsoft Visual Code Studio

- As soon the first step is over ,Then click on file then new file.

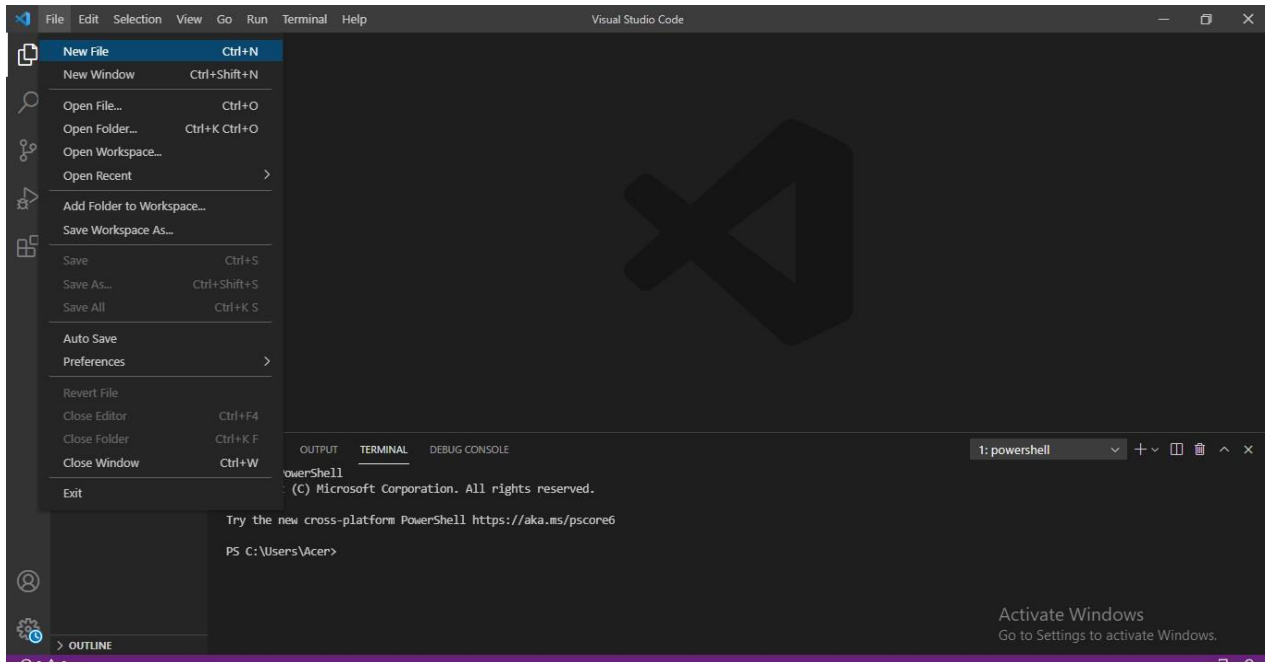


Fig 2.2 Microsoft Visual Code Studio creation of new file

- Editor of Microsoft code studio is open, Now write the code here.

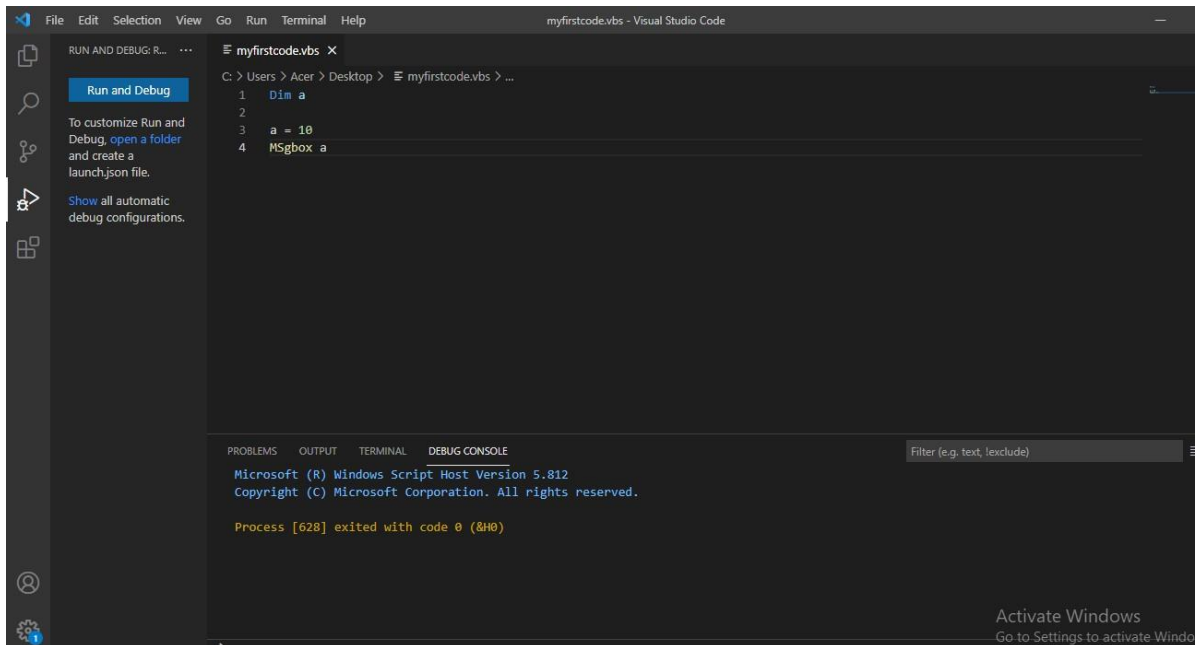


Fig 2.3 Microsoft Visual Code Studio writing code

- As soon the above case is completed. Then click on file then save or save as

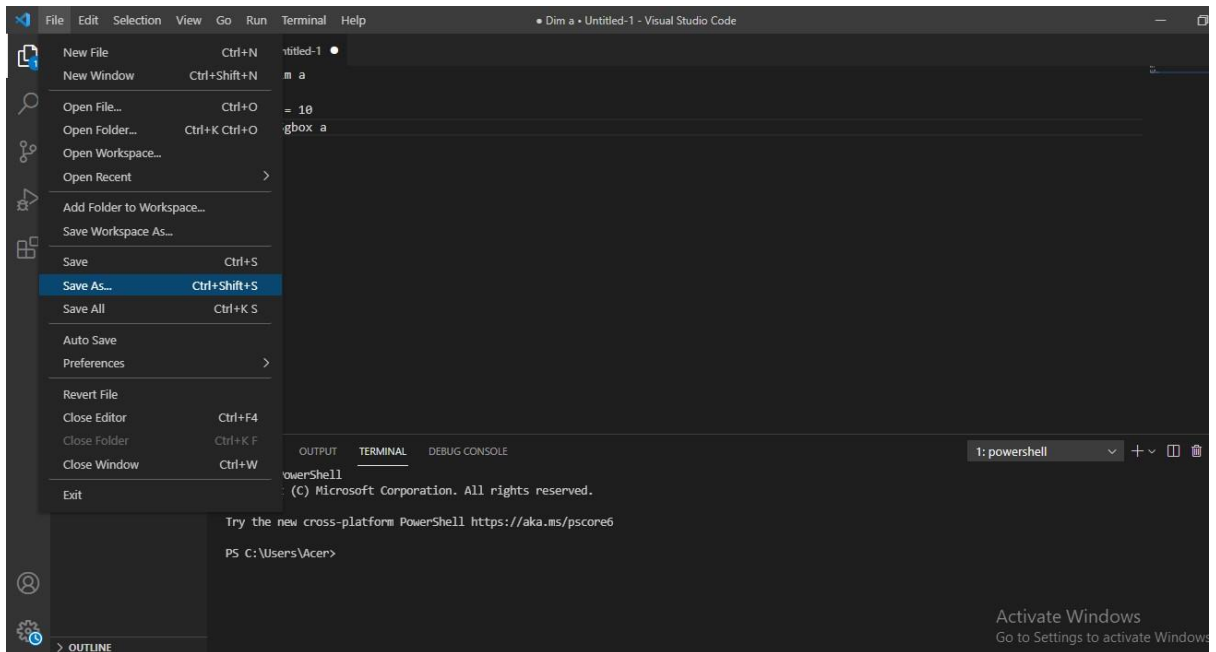


Fig 2.4 Microsoft Visual Code Studio saving file

- Now give the file name then give the extension to file name as .vbs

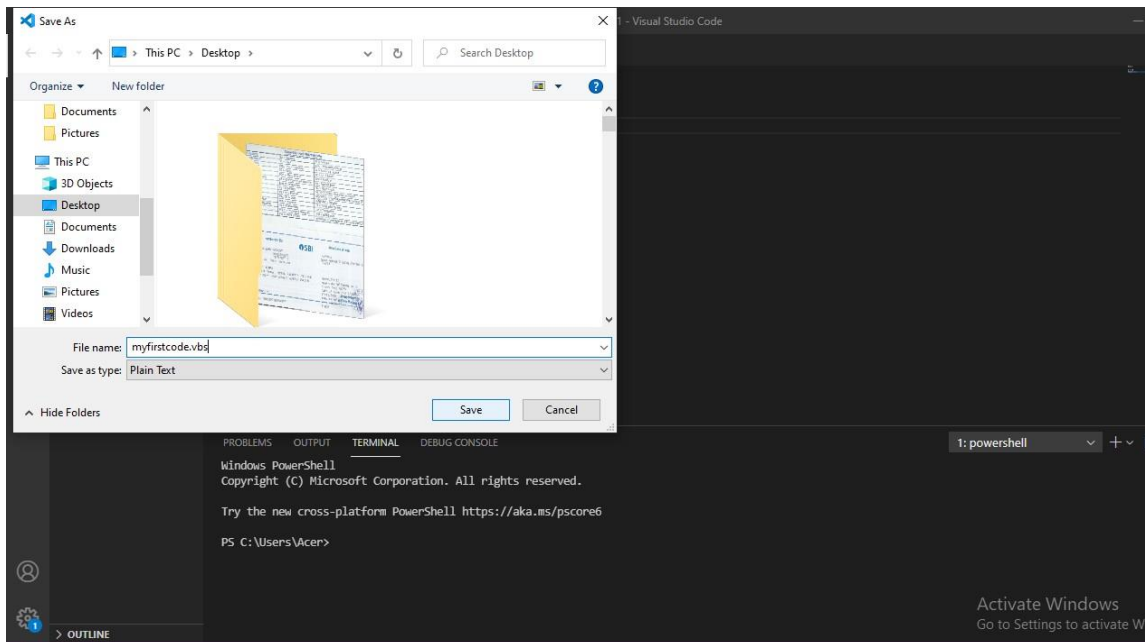


Fig 2.5 Microsoft Visual Code Studio saving the file with .vbs extension

- Then click on save then click on Run then start debugging

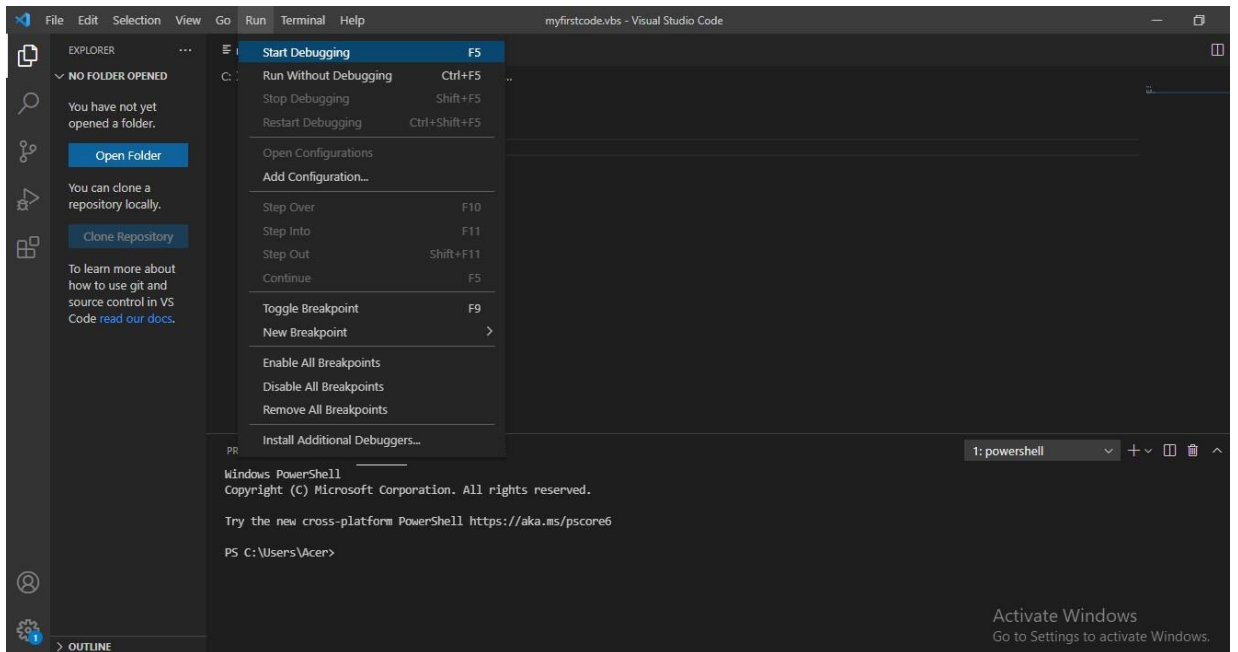


Fig 2.6 Microsoft Visual Code Studio Run then start debugging

- On completing the above case. The output will be displayed

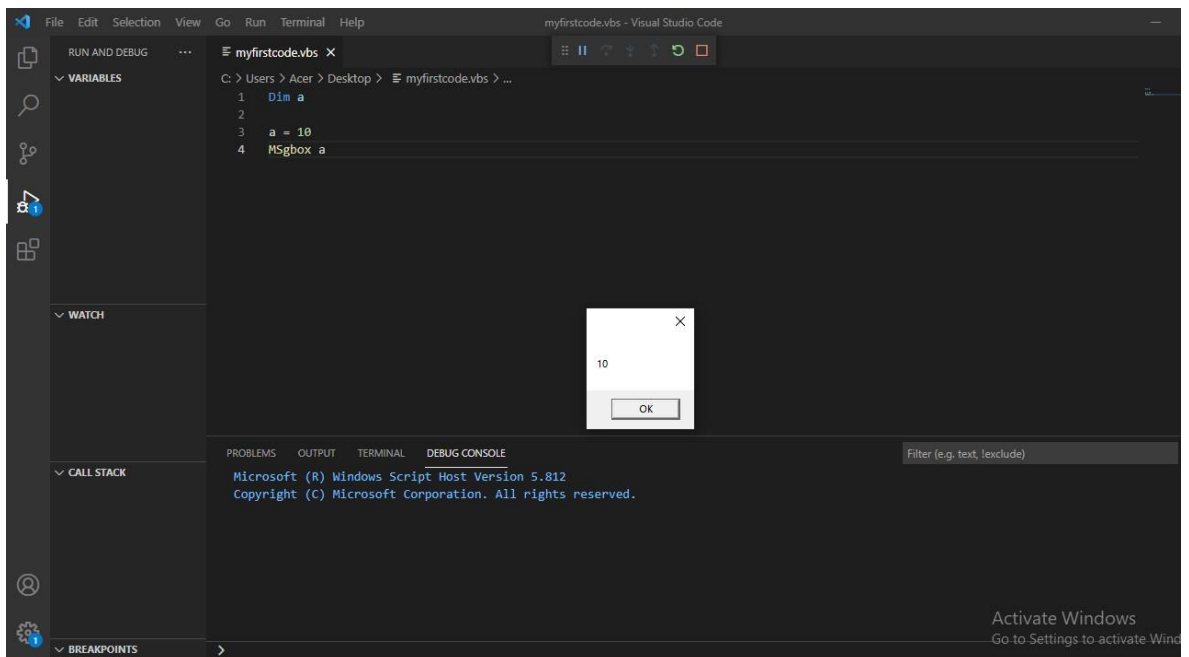


Fig 2.7 Microsoft Visual Code Studio Output

Code for above displayed program is as follows

```
Dim a
a = 10
Msgbox a
```

In this code MsgBox is used to display the output on the screen when code is executed.

2.3 Some common codes:

- **To display month name when input is entered by the user:**

Code:

Option Explicit

Dim a

a= InputBox("enter the number of month")

if (a=1) then

MsgBox("january")

ElseIf (a=2) Then

MsgBox("february")

ElseIf (a=3) Then

MsgBox("march")

ElseIf (a=4) Then

MsgBox("april")

ElseIf (a=5) Then

```
MsgBox("may")  
  
ElseIf (a=6) Then  
  
MsgBox("june")  
  
ElseIf (a=7) Then  
  
MsgBox("july")  
  
ElseIf (a=8) Then  
  
MsgBox("august")  
  
ElseIf (a=9) Then  
  
MsgBox("september")  
  
ElseIf (a=10) Then  
  
MsgBox("october")  
  
ElseIf (a=11) Then  
  
MsgBox("november")  
  
ElseIf (a=12) Then  
  
MsgBox("december")  
  
ElseIf (a<0 or a>12) Then  
  
MsgBox("no such month")  
  
End If
```

After executing the code Output obtained from the following code is

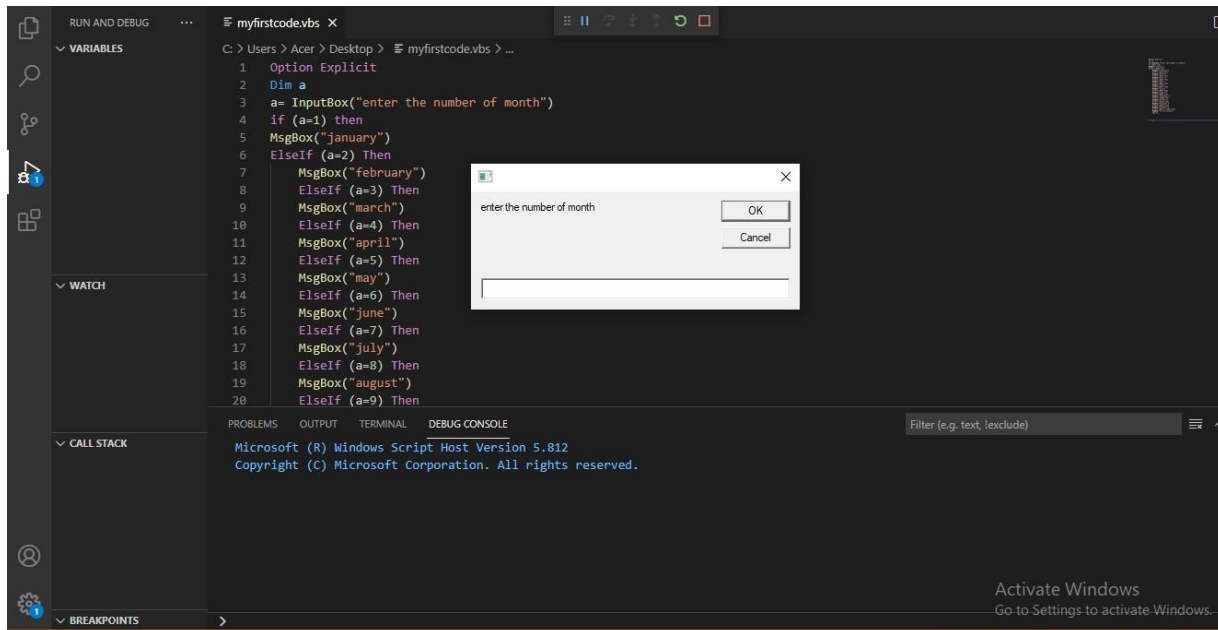


Fig 2.7 Microsoft Visual Code Studio enter the value

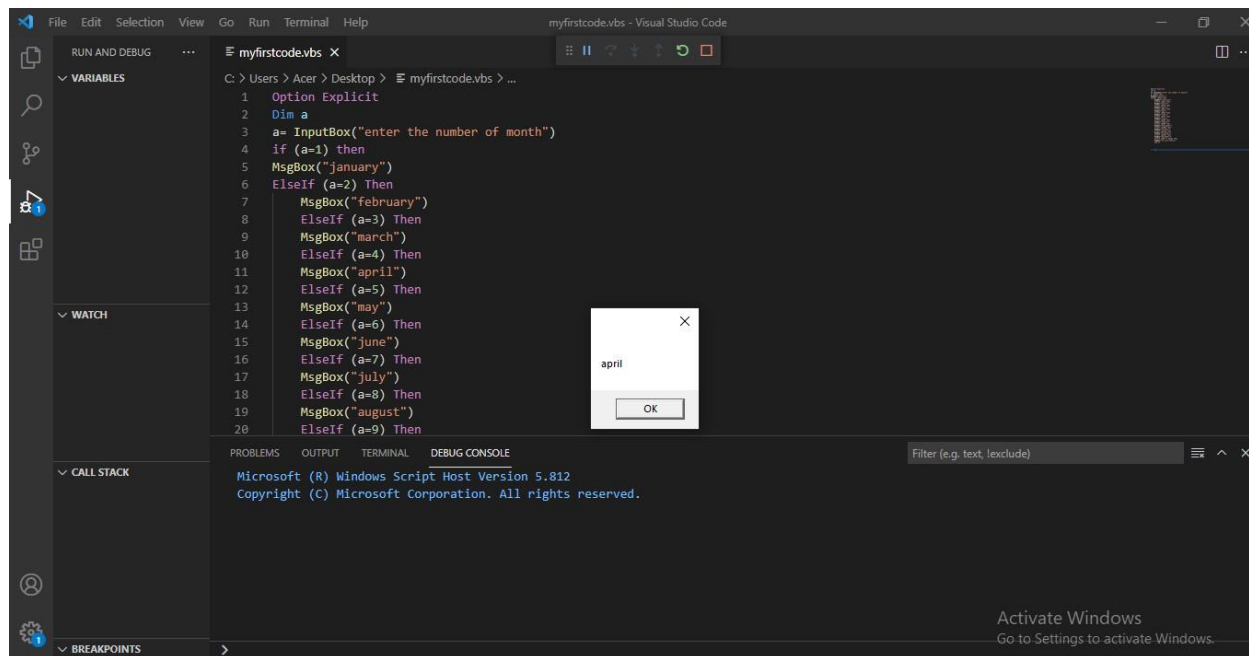


Fig 2.8 Microsoft Visual Code Studio Output

- **Code to perform basic calculations**

Dim p

```
Dim q
Dim r
p=InputBox("enter the first input")
q=InputBox("enter the second input")
r=Inputbox("enter the character")
Select case r
case "A"
MsgBox("addition")&(CInt(p)+CInt(q))
case "S"
MsgBox("substraction")&(CInt(p)-CInt(q))
case "M"
MsgBox("multiplication")&(CInt(p)*CInt(q))
case "D"
if (q=0) then
MsgBox("division not possible")
else
MsgBox("division")&(CInt(p)/CInt(q))
End if
case else
MsgBox("unknown input operation")
End
```

Output of the following code is:

Enter the first value in the message box.

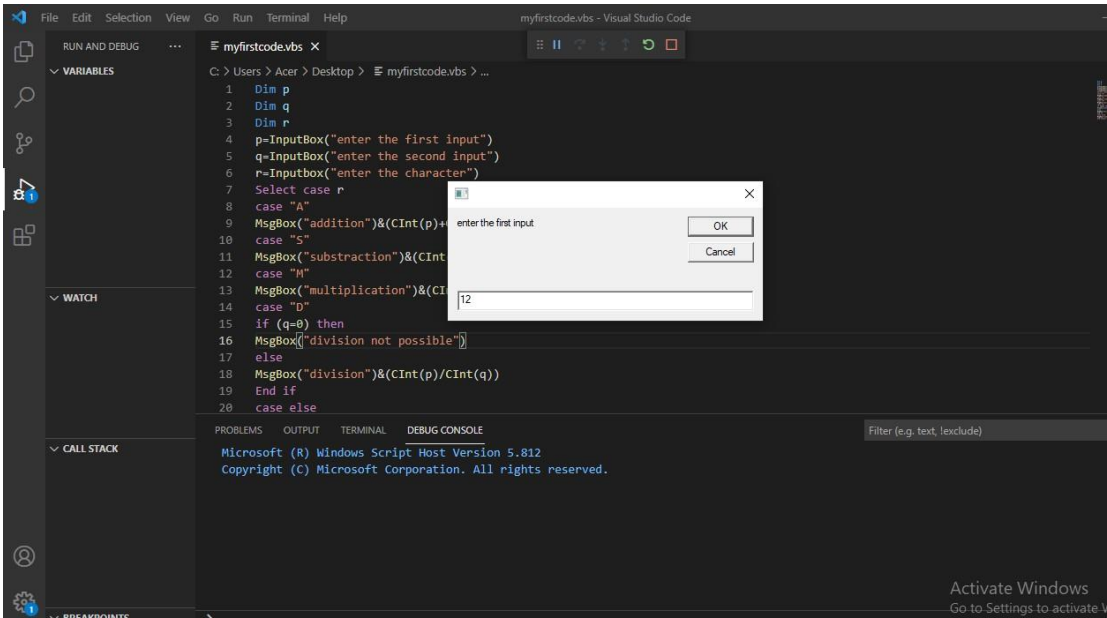


Fig 2.9 Microsoft Visual Code Studio enter the first value

Enter the second value in the message box.

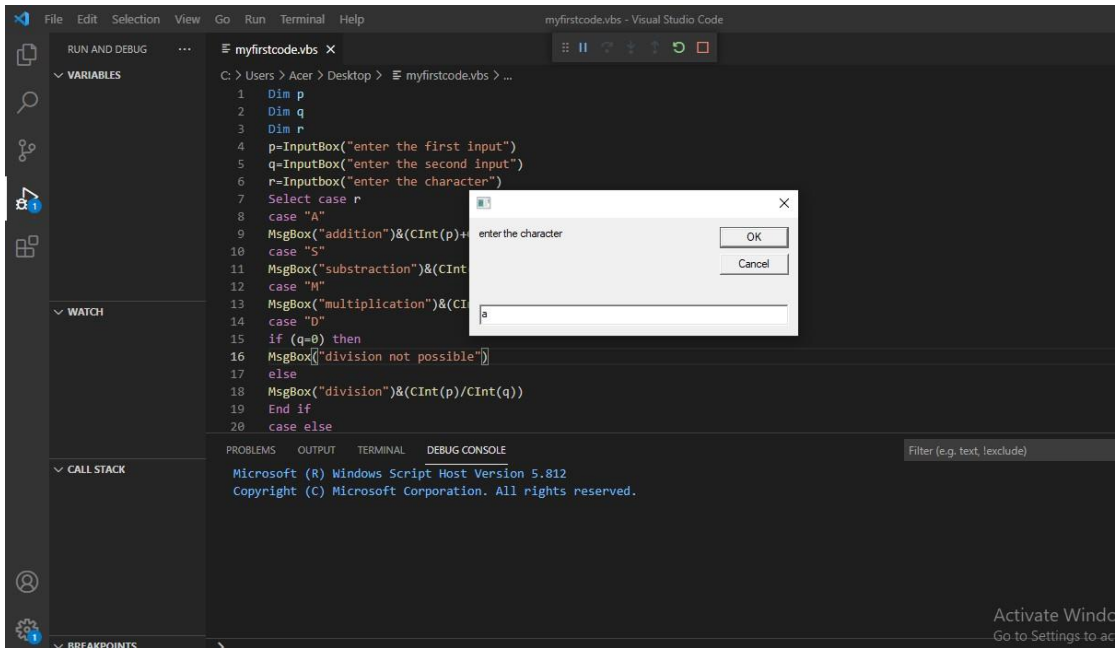


Fig 2.10 Microsoft Visual Code Studio enter the second value

Enter the first word of the operation you want to perform.

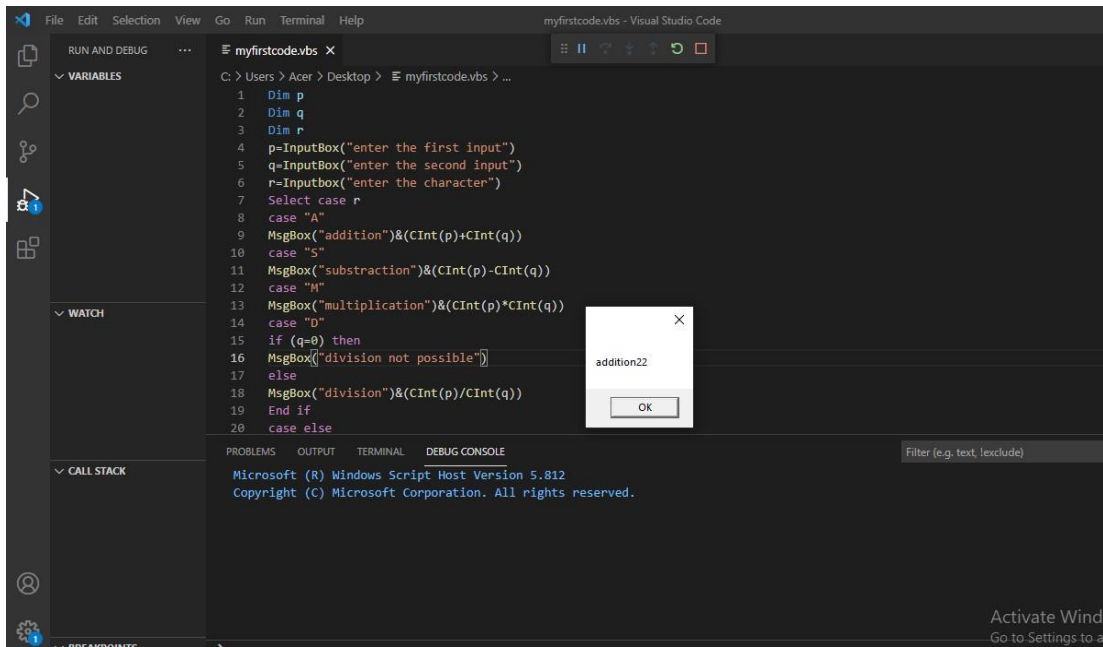


Fig 2.11 Microsoft Visual Code Studio output

Code to find the factorial of a give number

```

Dim n,f
n=inputbox("input a number whosefactorialyou want to find out")
f=1
If n<0 Then
msgbox "invalid number"
else if n=0 or n=1 then
msgbox "the factorial of given number is : "& f
else
For i=1 to n
f=f*i
Next
msgbox "the factorial of given number is : "&f
End If

```

outputs obtained when the code is executed.

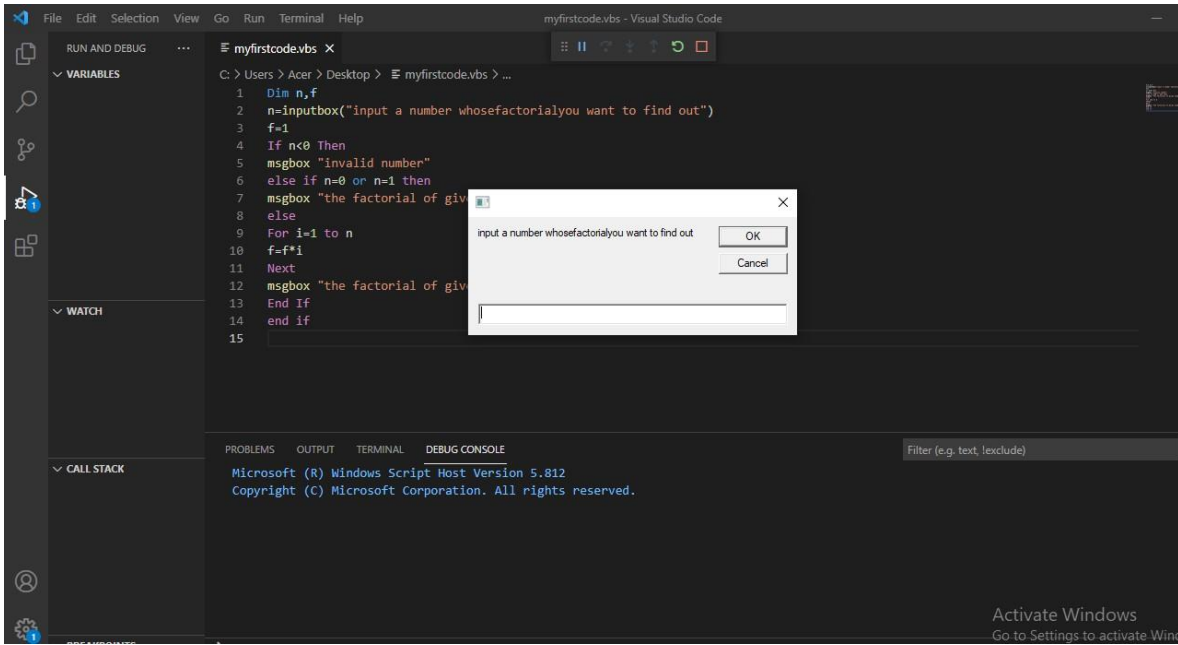


Fig 2.12 Microsoft Visual Code Studio enter the value whose factorial users want to find out

Input the value of whose factorial you want to find out

:

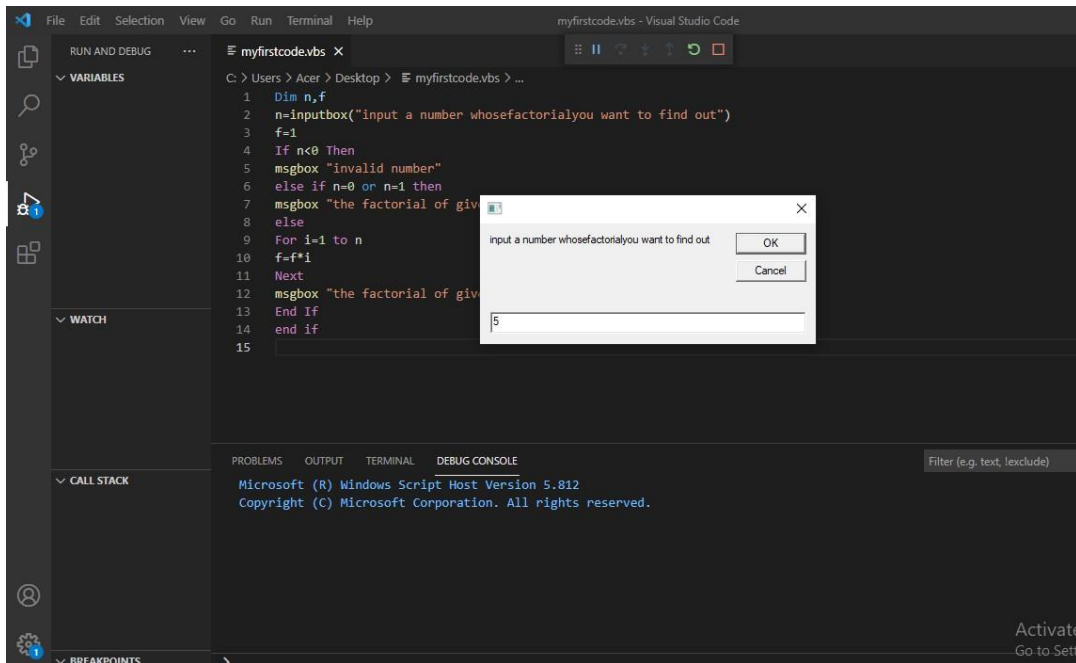


Fig 2.13 Microsoft Visual Code Studio enter the value

Click on OK then the result will be displayed on the message box.

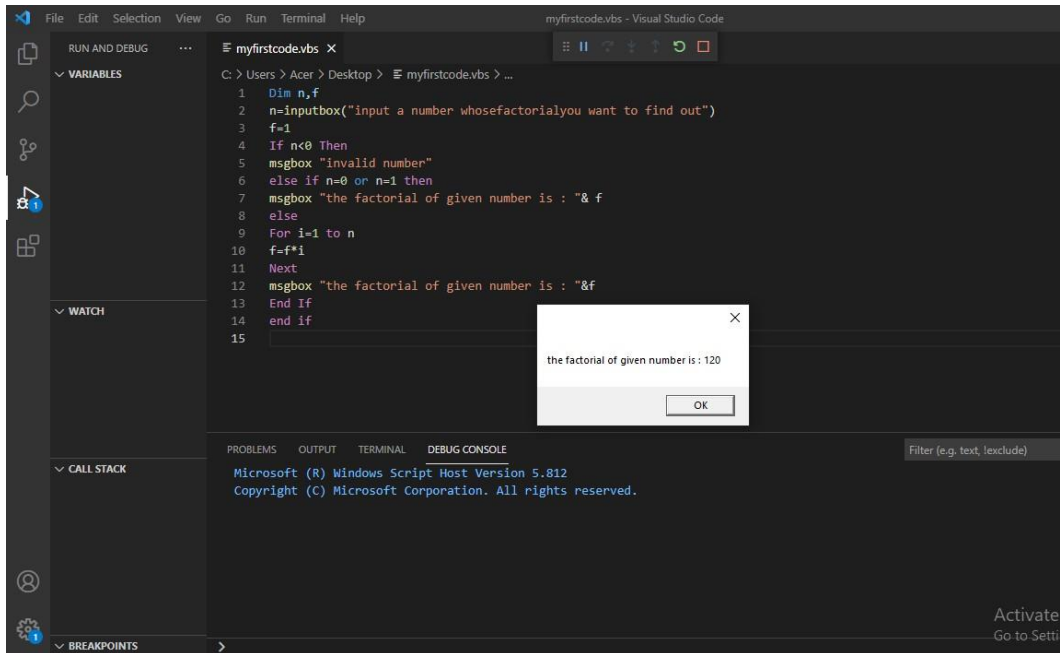


Fig 2.14 Microsoft Visual Code Studio Output

CHAPTER 3

UNIFIED FUNCTIONAL TESTING

QTP/UFT is an advanced level automation testing software which helps in detecting defects, gaps or any errors when compared with expected result. Initially QTP/UFT was designed by MERCURY INTERACTIVE then it was acquired by Hewlett-Packard then by Micro Focus.

It is a very powerful tool which helps in detecting error. We use usually use Vbscript to give command to UFT/QTP which makes the use of it very simple. Its user interface is also very interactive and every option is available in the tools and setting menu. There are many Add-ins like web add-ins, ActiveX, Mobile, UI Automation, Visual Basic etc. which makes the use of this software very easy. UFT is mainly used for service testing, regression testing and functional testing. Any user can automate user actions on the client or web, client or software based application or portal and detect bugs on the action performed by the user on the different data set or parameters set by the clients. It has the ability to work on different browsers like Google chrome, Internet explorer, Firefox and Brave etc. user need to allow(enable) the extension in their browser under Micro-Focus UFT section.it is known for its user friendly interface, support and ease of use due to which It is one of the most demanded commercial automation tools in the market

3.1 License

On the successful installation of UFT One, User will get trial period of 1 month by default of demo UFT one. But as soon as the trial period is over user has to purchase the software user can either go for Seat or Concurrent License scheme. Any type of data loaded in UFT during the trial period will be automatically loaded to licensed UFT one so there is no Loss of data or file throughout the whole period.

3.2 Raw example of UFT ONE:

Suppose you want to test the login functionality of the user in a particular website. We will perform the following steps when done manually.

- Open the browser.
- Enter the URL.
- Enter the Email ID and then Password Then click on sign-in button.
- Verify that User login is successful or not.

Now suppose if we want to test the functionality of login with many user ids. This task become very complex, time consuming and difficult to note. This task can be easily done with the help of UFT tool we need to enter some parameters and then check the functionality of the login by entering data in the data fields this will reduce the number of steps as during each login in manual phase we have to launch the browser then enter the URL of the website then enter the data in the email id and password fields this is simplified by using UFT we just need to enter the data in parameterize format in the data table initiate the primary steps by either recording them using UFT recording tool or by using dynamic programming and then writing script for it .After these steps UFT will automatically check for every data you entered and in the end the results will be displayed at the result window which consist of all the test results in a sequential format outputs will also be displayed here and the status of result which will be Warning, Pass and Fail.

3.2 TOOLS IN UFT:

- **RECORDING:** This feature in UFT is used to record every action a user is performing on the application it supports nearly every application whether web based or software. User can customize their setting on the Record and Run Setting which is present at the top of the UFT software user can choose to record on a specific website or application or either choose to record on any application or website



Fig 3.1 Recording menu

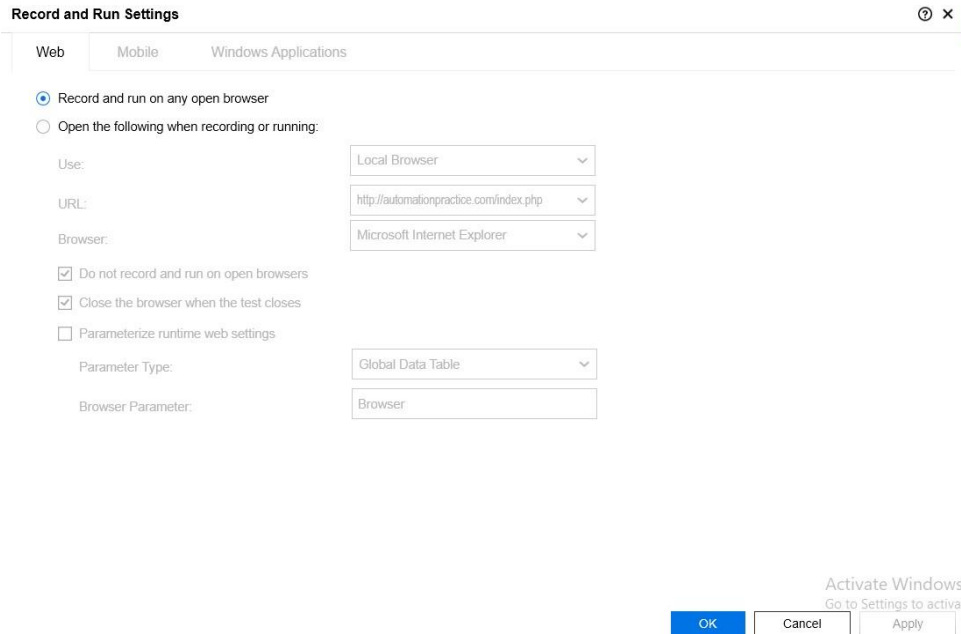


Fig 3.2 Record and Run Settings

- **Object Repository:** In this all Information regarding the object identified is stored is so that any modification made in the input value might not change the basic identification property of object. In this we can find out all object related data and property. The properties of object might be Height, width, active, class name etc. which are of high importance during testing.

Properties	Values
className	gLfyf gsfi
clientHeight	33
clientLeft	0
clientTop	0
clientWidth	487

Fig 3.3 Object repository Properties and values

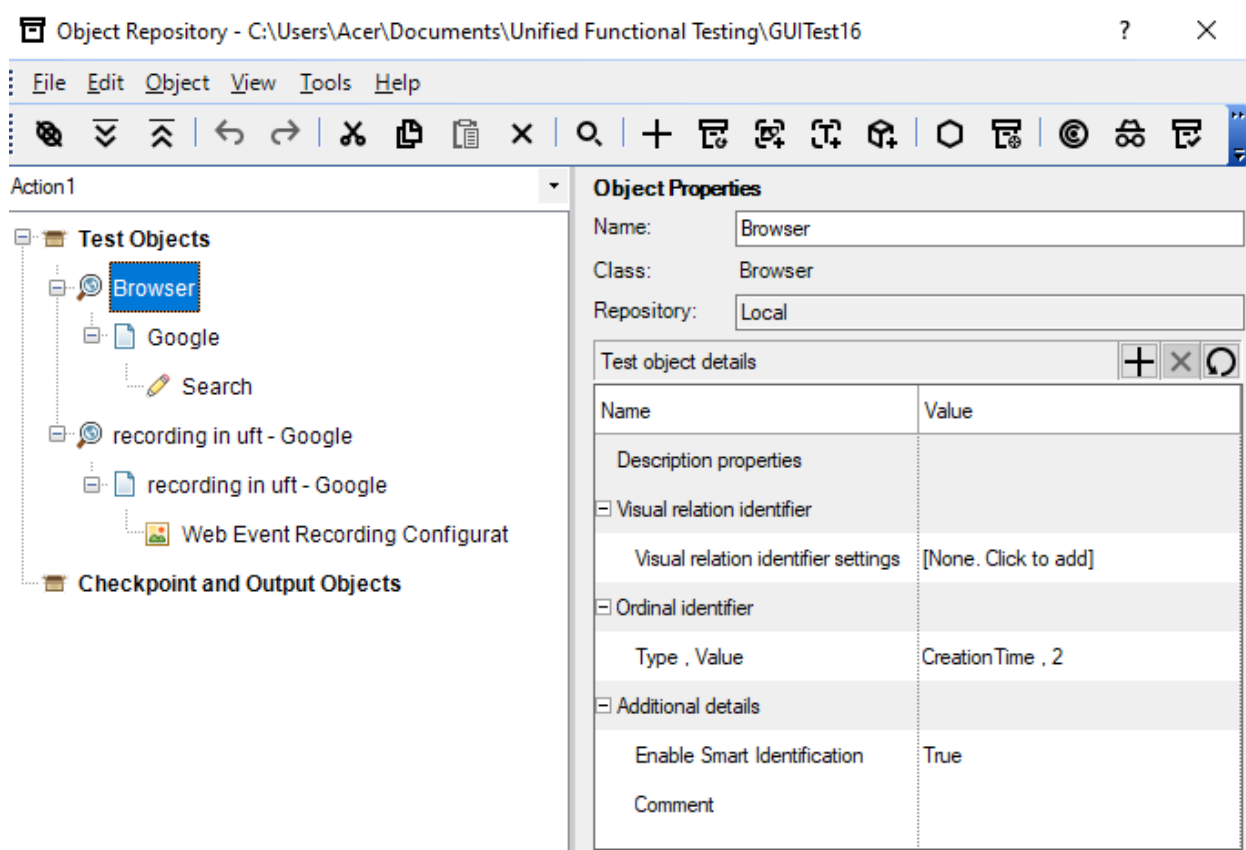


Fig3.4 Object Repository

- **Data table:** It is a feature of UFT that we can input or retrieve data into the data table by parameterizing the columns in it so that the data can be used for the multiple iterations and when the process is completed we can export or import the data into spreadsheet (excel, google spreadsheet) as well.

P	A	B	C
	input value	email	password
2	test value	shayam.com@gmail.com	pin30202
3		geet.com@gmail.com	kigen.@jpec
4		shayam.ride@yahoo.com	retger123
5		abhinav@gmail.com	tetr2x3
6		pits@yahoo.com	rewqty
7		ret.13@gmail.com	reddy54345
8			
9			
10			
11			
12			
13			
14			
15			
16			
17			
18			

Fig 3.5 Data table

- **Keyword view/ Editor view:** UFT provide feature that we can execute our statements in editor or in keyword view as well. Editor view is doing the coding part in the script then executing the code this type of method require good understanding of the coding language as any error can occur during typing of code Editor view is old fashioned way of debugging the error. Keyword view is basically designed for those who have little or no knowledge of programming language just few basic knowledge of actions and

tools in UFT is required.

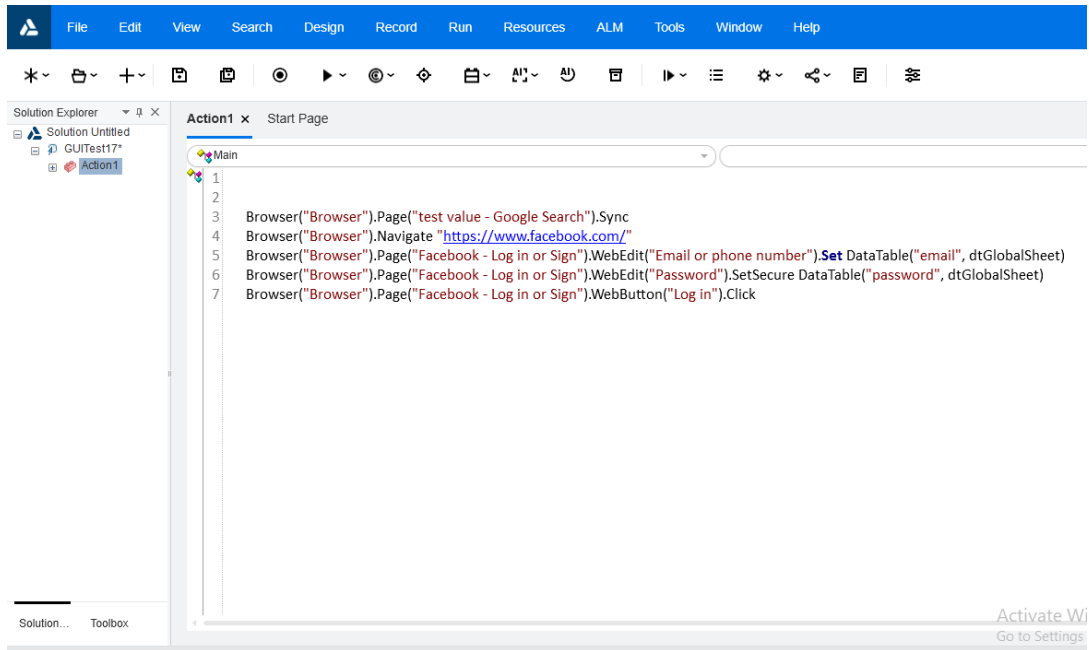


Fig 3.6 – Editor View

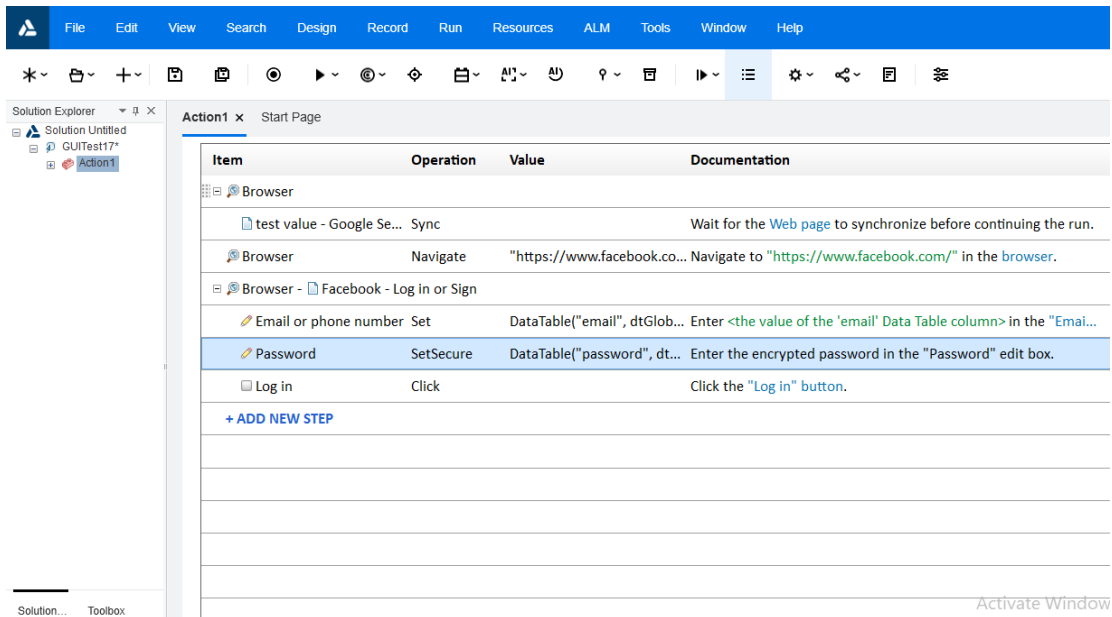


Fig 3.7 Keyword View

- **Add-ins:** This feature is very useful when the user is dealing with software having different component like web based, mobile based or application based here the role of add-ins comes into play as Add-ins contain some built in properties which are used when they are required like while dealing with web based application web add-ins are activated so that user can easily use the web application in UFT without any problems. They can be used or activated by clicking on setting then add-ins or at the start of the UFT add-ins window is displayed where we can select or deselect the add-ins.

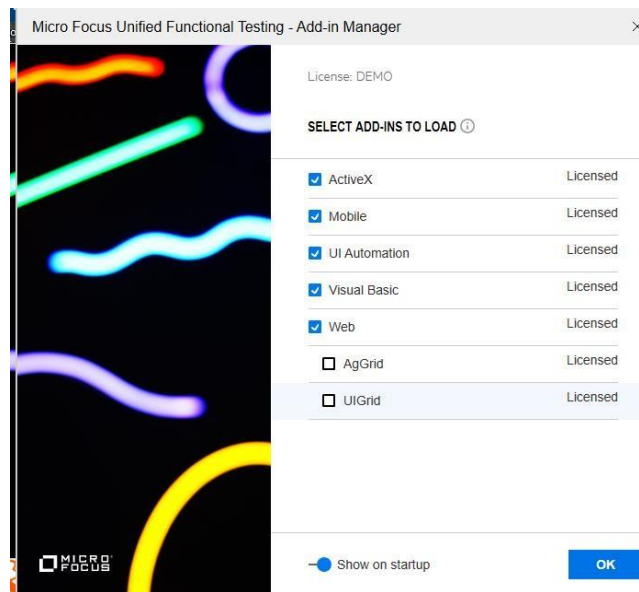


Fig 3.8 Add-ins at startup

3.3 Example demonstrating the use of UFT:

- **Array implementation:**

Code:

Arrayvalue = **array**(91,92,93,94)

Msgbox Arrayvalue(0)

Msgbox Arrayvalue(1)

Msgbox Arrayvalue(2)

Msgbox Arrayvalue(3)

Msgbox (**ubound**(Arrayvalue) + 1)

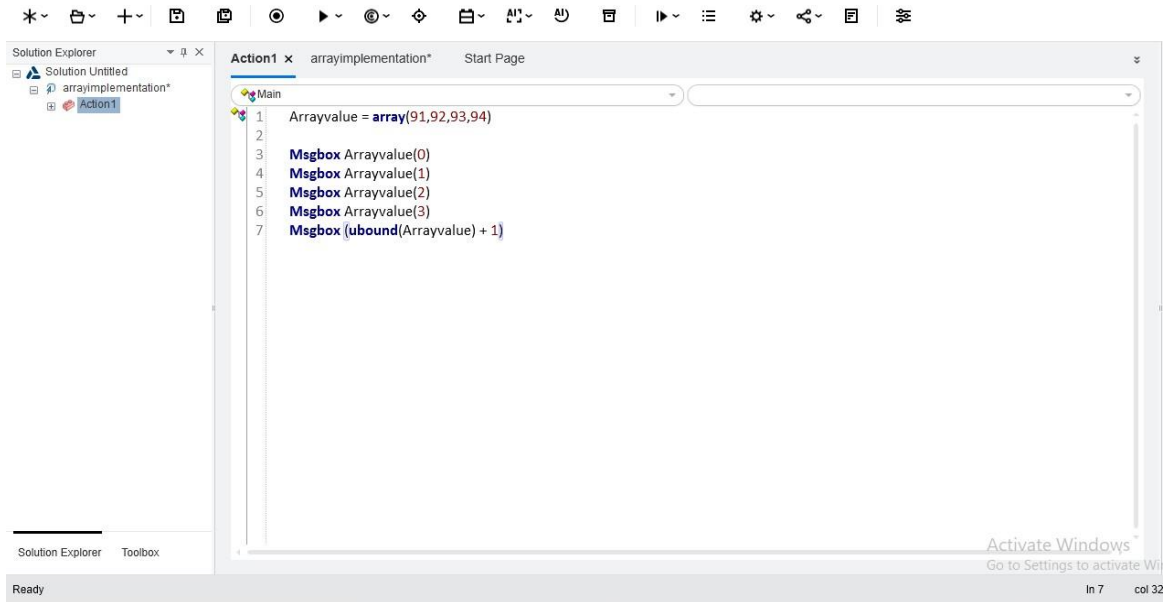


Fig 3.9 code for array implementation editor view

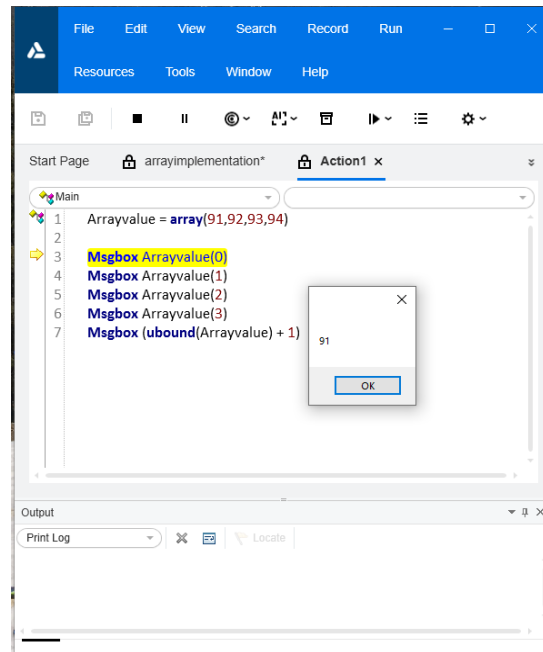


Fig 3.10 value of array at index 0

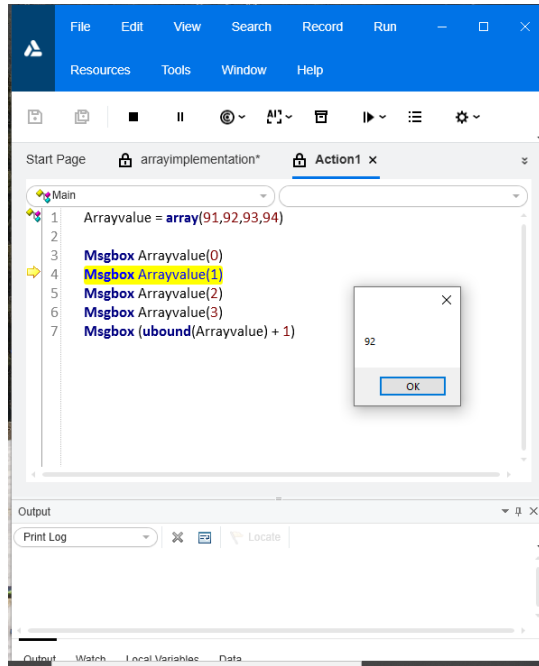


Fig 3.11 value of array at index 1

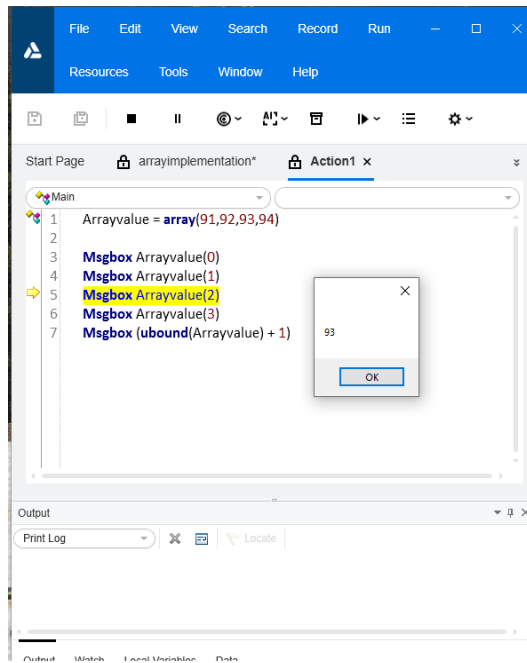


Fig 3.12 value of array at index 2

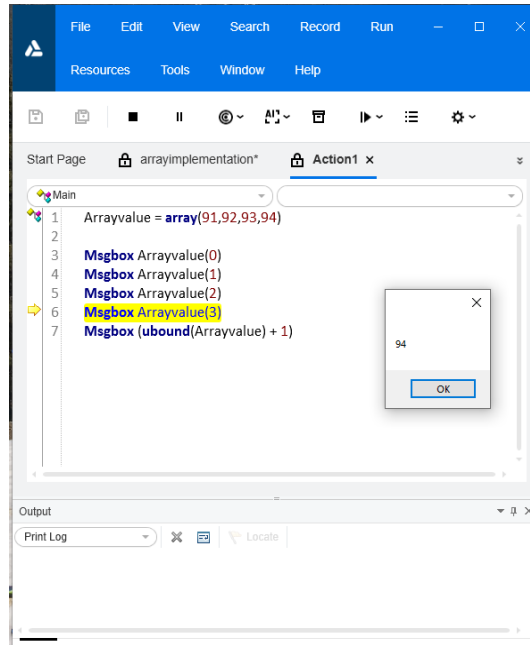


Fig 3.13 value of array at index 3

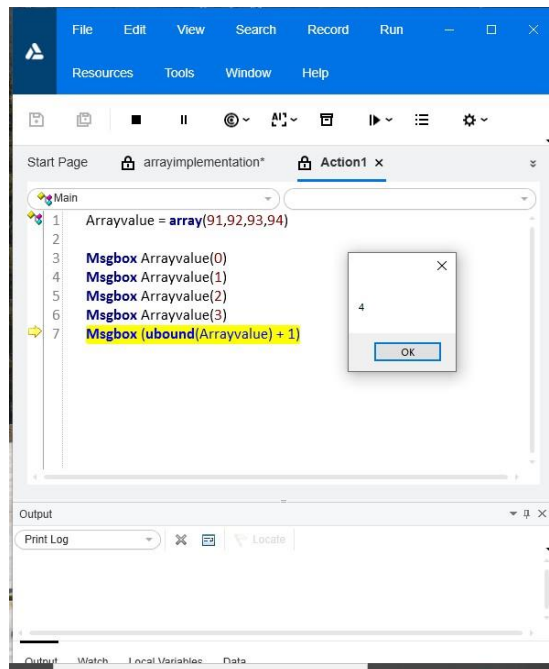


Fig 3.14 Total elements in an array

- Getting the Links details when it is searched in Google.

Code:

```

Set desc=description.Create()
desc("micclass").value="Link"
Set objLink =Browser("creationtime:=0").Page("title:=.*").childobjects(desc)
msgbox objLink.count
datatable.GlobalSheet.AddParameter"Links_Google", ""
For i = 0 To 19 Step 1
datatable.SetCurrentRow(i+1)
datatable("Links_Google") = objLink(i).getROProperty("name")
Next

```

Result 1:

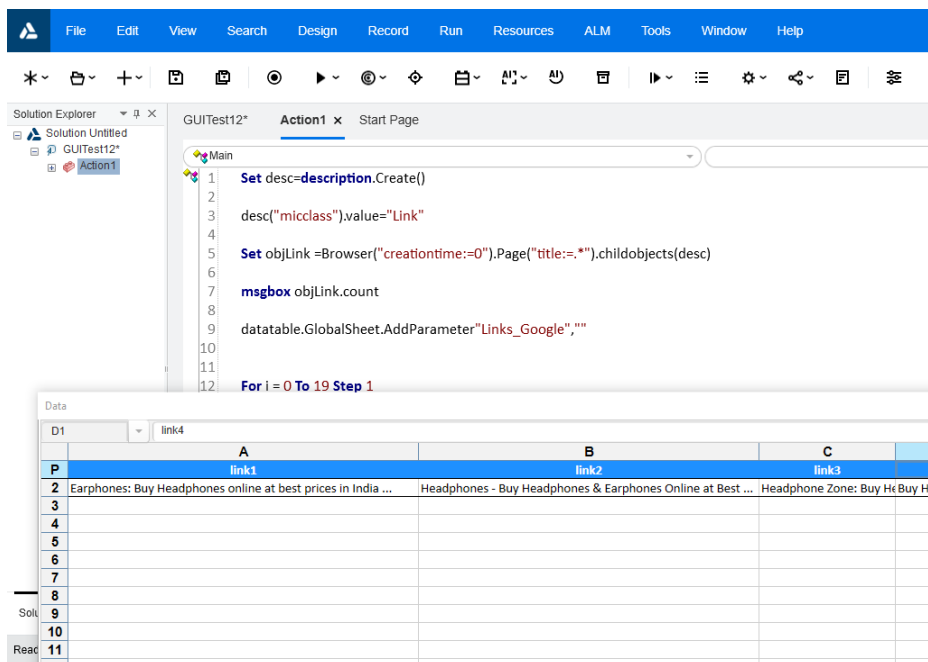


Fig 3.15 UFT editor view using dynamic programming fetching the links from google

Result 2:

The screenshot displays the UFT editor interface. The top menu bar includes File, Edit, View, Search, Design, Record, Run, Resources, ALM, Tools, Window, and Help. The Solution Explorer on the left shows a project named 'GUI Test12*' with a sub-project 'Action1'. The main editor window shows the following code:

```
1 Set desc=description.Create()
2
3 desc("micclass").value="Link"
4
5 Set objLink =Browser("creationtime:=0").Page("title:=.*").childobjects(desc)
6
7 msgbox objLink.count
8
9 datatable.GlobalSheet.AddParameter"Links_Google", ""
```

Below the code editor is a 'Data' table with the following structure:

D1	link4				
P	link1	link2	link3	link4	E
2	Earphones: Buy Headphones online at best prices in India ...	Headphones - Buy Headphones & Earphones Online at Best ...	Headphone Zone: Buy HeBuy Headphones & Headsets Online at Best Prices in		
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					

An 'Activate Windows' watermark is visible in the bottom right corner of the data table area.

Fig 3.16 UFT editor view using dynamic programming Results are obtained in the data table

CHAPTER 4

CONCLUSION AND FUTURE WORK

4.1 Conclusion:

Software testing is final wall of software development cycle as any bugs or defect found during the initial or the development can be solved without much efforts. As Software organization reputation is dependent on how reliable software product they produce so the testing of software is very important. Software testing in earlier days was very complex and time consuming but due to latest advancement in the field of technology the process of software testing is automated which saves a lot of manpower and saves time as well. Automation tools like UFT/QTP and Selenium etc. are making this testing more convenient so any user with little or less knowledge can operate this testing software. Working with UFT provide lots of privileges we can record the steps, set the number of iterations of the defined parameters and set the data values in the data table. Due to this results are in more sequential format which makes data interpretation more easy. Developer can easily understand the defects and looking at the steps in either editor or keyword view can easily reproduce it by following the steps.

4.2 Future Work:

As per the Company's Demands and need of Clients More Stress would be laid on the testing part as well as the development part. Focus would be oriented on Alpha and Beta testing.

PUBLICATIONS

- [1] B.Pal, S. Mahajan and S. Jain, "A Comparative Study of Traditional Image Fusion Techniques with a Novel Hybrid Method," 2020 International Conference on Computational Performance Evaluation (ComPE), Shillong, India, 2020, pp. 820-825 DOI: 10.1109/ComPE49325.2020.9200017 [**published**].
- [2] B.Pal, S. Mahajan and S. Jain, "Medical Image Fusion Employing Enhancement Techniques". 6th IEEE international Women in Engineering (WIE) Conference on Electrical and Computer Engineering 2020 (IEEE WIECON-ECE 2020) [**published**].

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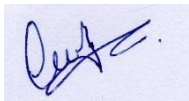
Project Report Undertaking

I Mr. /Ms. SURYA MAHAJAN -Roll No. 171060
Branch ELECTRONICS AND COMMUNICATION is doing my internship with
COGNIZANT from 27-FEB-2021 to 30-JUNE-2021

As per procedure I have to submit 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.



Signature

Name SURYA MAHAJAN

Roll No. 171060

Date MAY-2021