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PRACTICAL NO: 1

1A] Create a simple sequence based project.

1. Create a blank project and, on the Design tab, in the File group, select New > Sequence. The New Diagram window is displayed.

Note:

You can also add a Sequence activity to the Designer panel to create a new sequence.

2. In the Name field type a name for the automation, such as "First Sequence," and click Create. The Designer panel is updated accordingly.
3. Create three String variables such as strFirstName, strLastName, and strHairColor, so that you can store data from the user in them. Leave the Default field empty, to indicate that there is no default value.

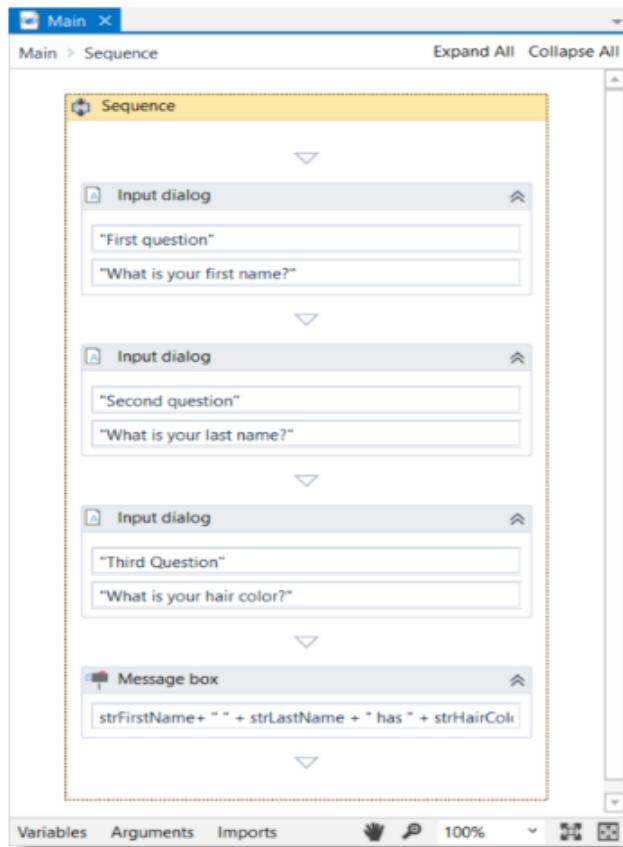
Name	Variable type	Scope	Default
strFirstName	String	Sequence	""
strLastName	String	Sequence	""
strHairColor	String	Sequence	""

4. Drag three Input Dialog activities to the Designer panel, one under the other.
5. Select the first Input Dialog and, in the Properties panel, add a Label asking for the first name of the user, and a custom Title.
6. In the Result field add the strFirstName variable. This indicates that this variable is going to be updated with the value added by the user at this point.
7. Repeat steps 6 - 7 for the second and third Input Dialog activities to ask the user for his last name and hair color, and store them in the strLastName and strHairColor variables.
8. Add a Message Box activity under the third Input Dialog.
9. Select the Message Box and, in the Properties panel, in the Text field, add the variables and a string to enable you to display all information gathered from the user, such as: strFirstName + " " + strLastName + " has " + strHairColor + " hair."

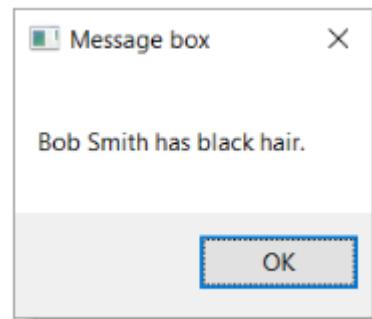
Note:

Remember to add spaces between variables and within strings for an optimal output.

The final project should look as in the following screenshot.



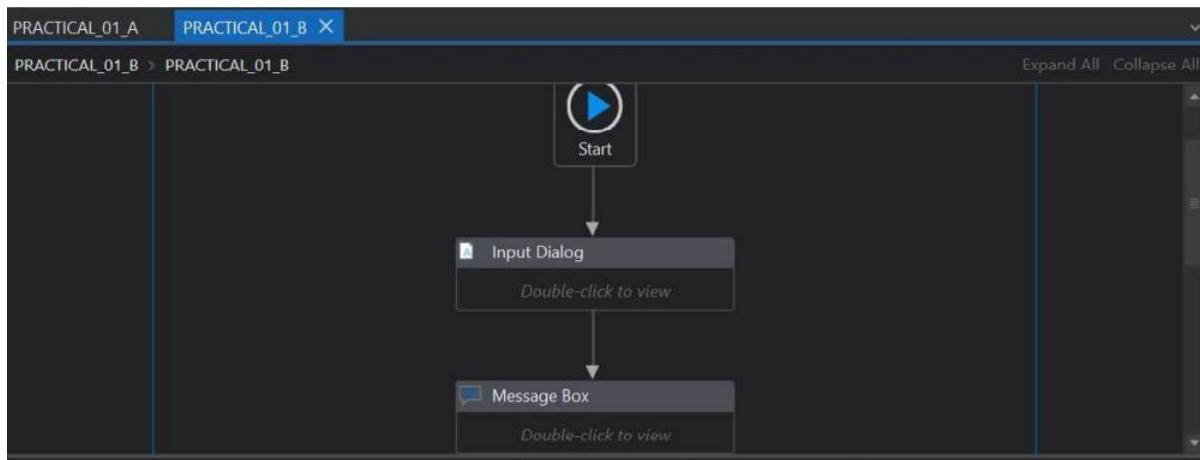
10. On the Design tab, in the File group, click Run. The automation is executed. The final output message should look as in the following screenshot.



Conclusion : Thus we have studied to create a simple sequence based project.

1B] Create A Flowchart-Based Project.

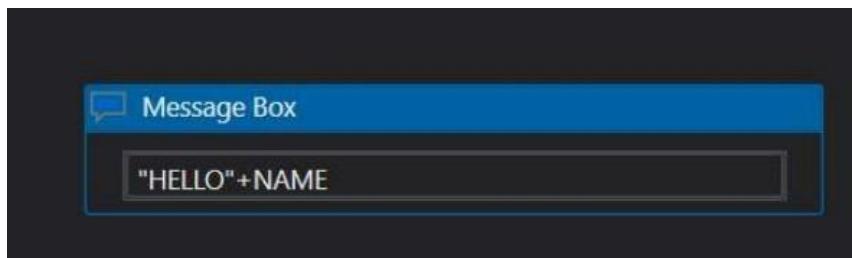
1. Click on Open main workflow. Drag and drop flowchart from activities panel.
2. Drag and drop input Dialog inside a flowchart
3. Drag and drop message box inside a flowchart.



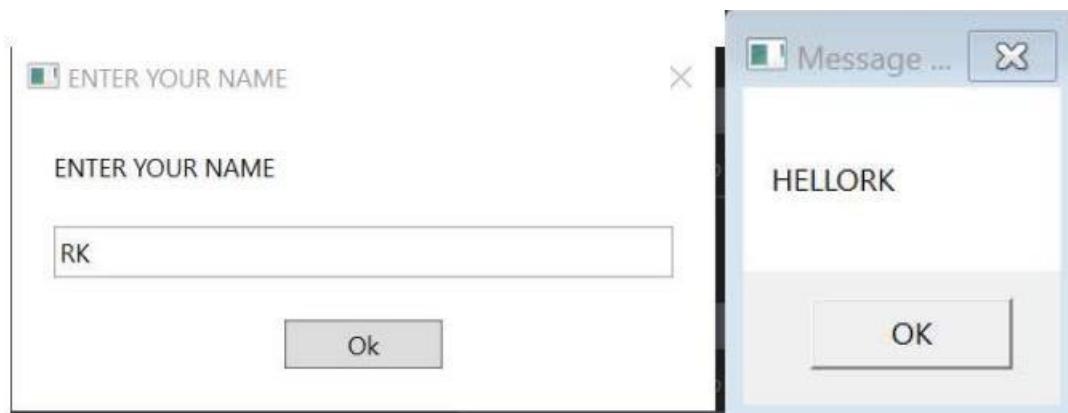
4. then Double click on input dialog and fill the details



6. then Double click on message box and fill the details



OUTPUT:-



Conclusion : Thus we have studied to create a flowchart-based project.

1C] Create an UiPath Robot which can empty a folder in Gmail solely on basis of recording.

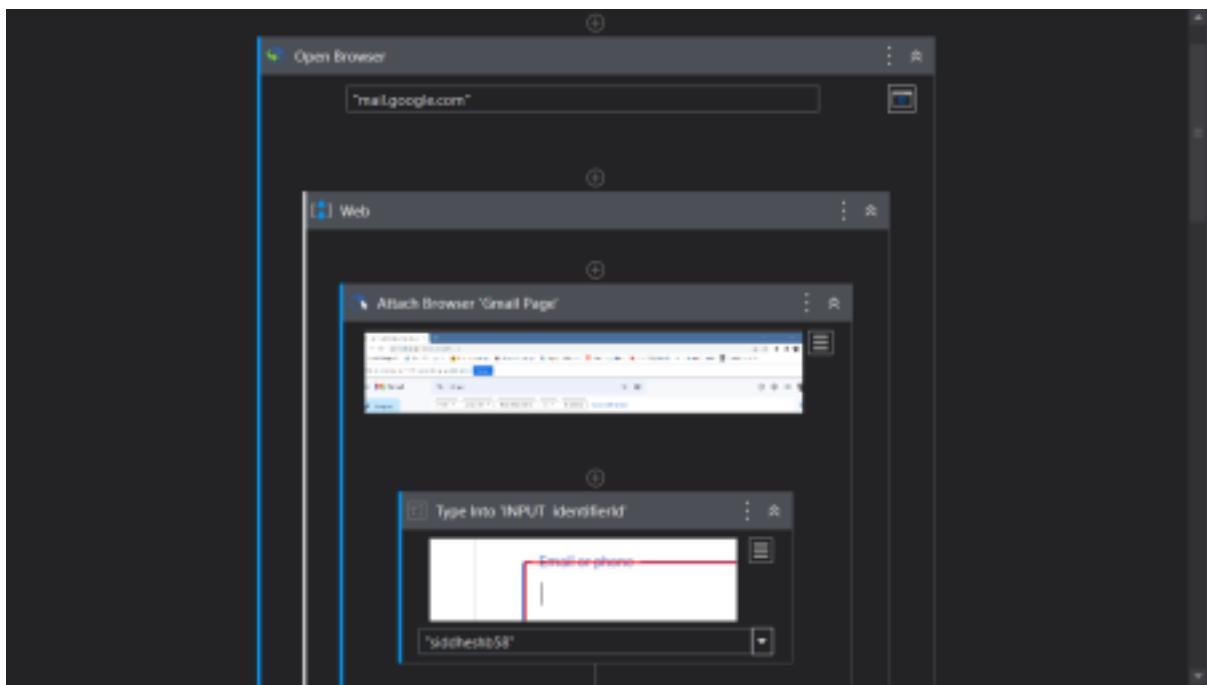
STEPS :-

1. Open Browser: Although we have already opened Gmail in the browser, we did not record that step. Here, we will note that step in the recorder using the Open Browser button in the recorder. A drop-down menu will appear. Again, choose Open Browser from the drop-down menu. It will ask to highlight the browser, highlight the already opened browser and click on the top of the browser.

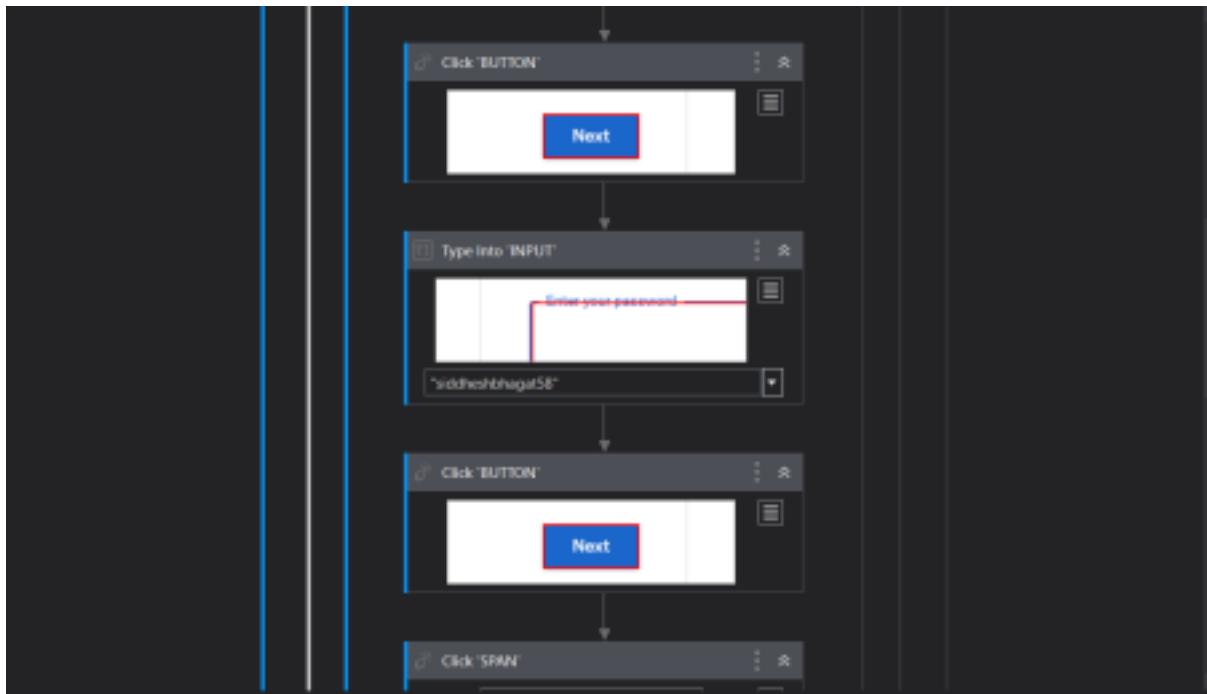
2. Go to gmail.com: You will be prompted to enter the URL of the website to navigate to. Type ‘gmail.com’ and press OK.

3. Sign In: Start recording by clicking on the Record icon of the recording panel. Go to the already open Gmail and click on the Email or Phone field. UiPath will pop up a prompt for typing the email

Type Email in the box provided by the UiPath recorder and press Enter. The Gmail textbox will automatically fill up with your typed content. Click on the NEXT button of the Gmail interface; it will also get recorded.



Type your password in the text field of the popup that appears. Then, click NEXT to log in to your account. Clicking on the NEXT button will also get recorded.

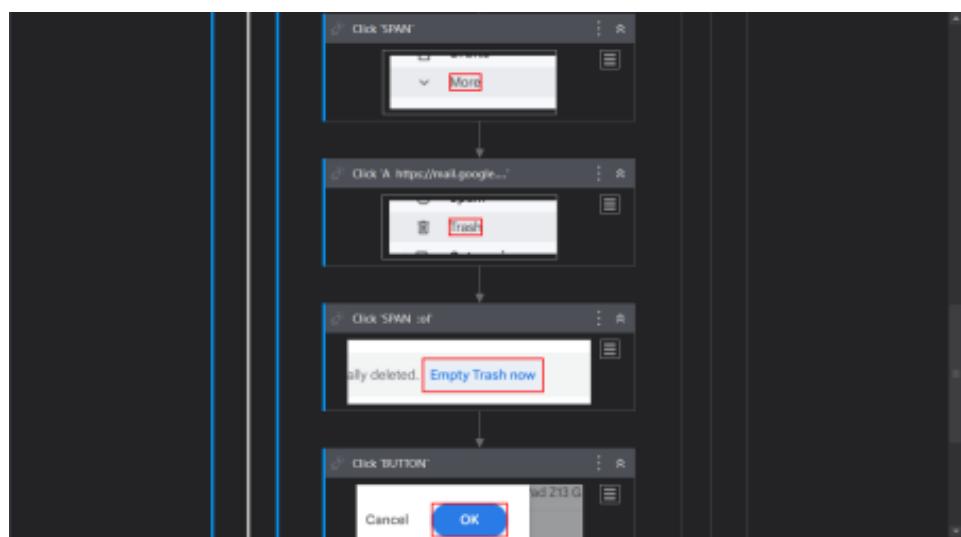


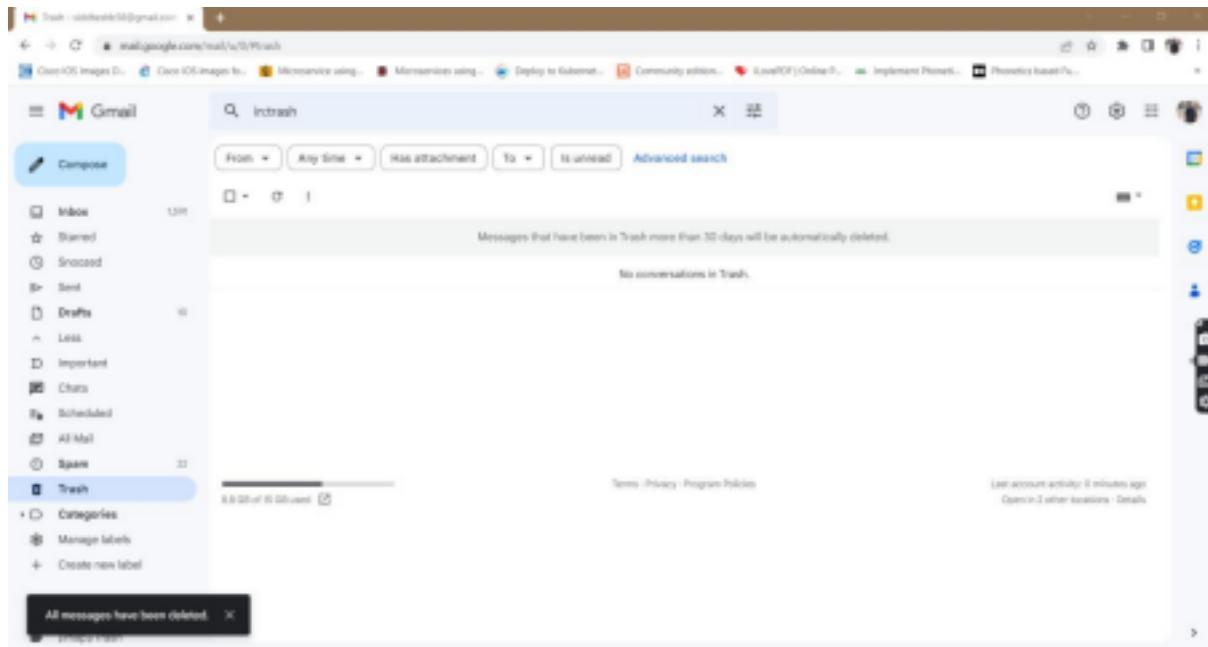
4. Locate Trash Folder: Click on More button and from its dropdown Click on Trash Option.

5. Click on Empty Trash now: Once you are done with clicking on the Trash action, You can see a link showing Empty Trash now. Hover mouse on this link and it will get highlighted, click on it to delete all the messages in the Trash folder.

6. Confirm: When you click on Empty Trash now, a confirmation dialog will appear asking your permission for the action. Just confirm your action by clicking on the OK button.

Now recording is complete, press Esc to get to the recording dialog. Click on the Save & Exit button



Output:

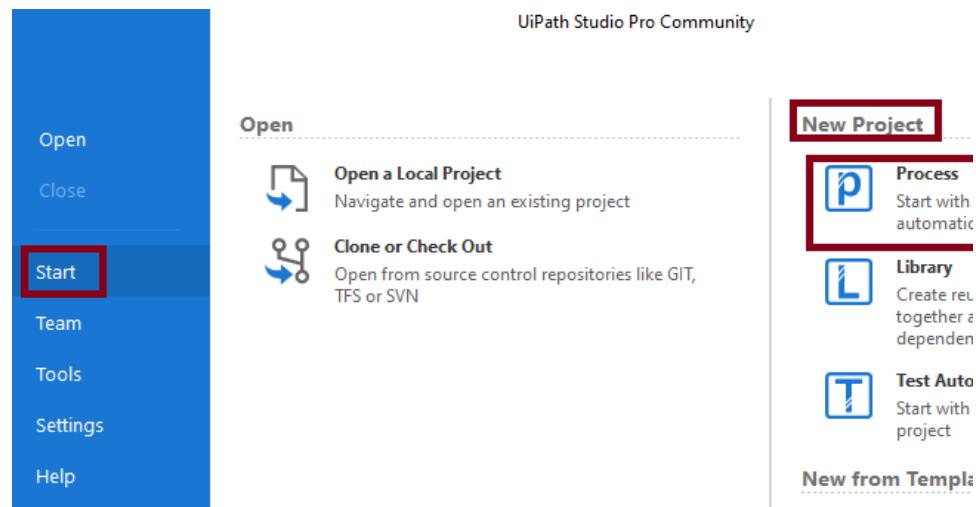
Conclusion : Thus we have studied to Create an UiPath Robot which can empty a folder in Gmail solely on basis of recording.

PRACTICAL NO: 2

2A] Automate UiPath Number Calculation (Subtraction, Multiplication, Division Of Numbers).

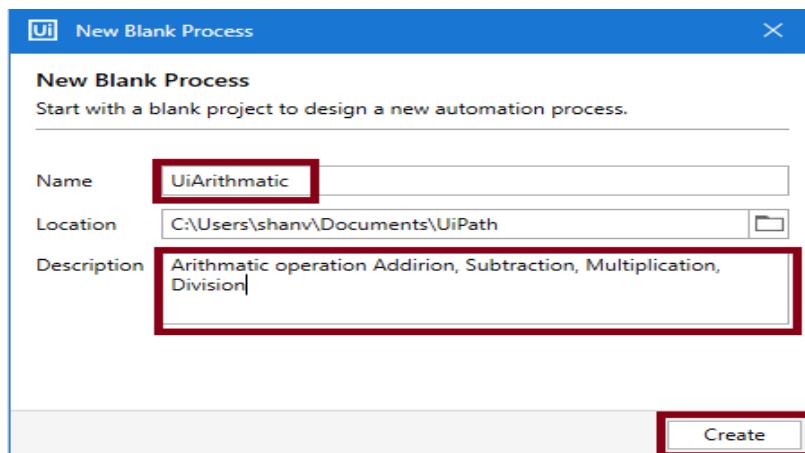
Step1

Open UiPath Studio -> Start -> New Project-> Click Process



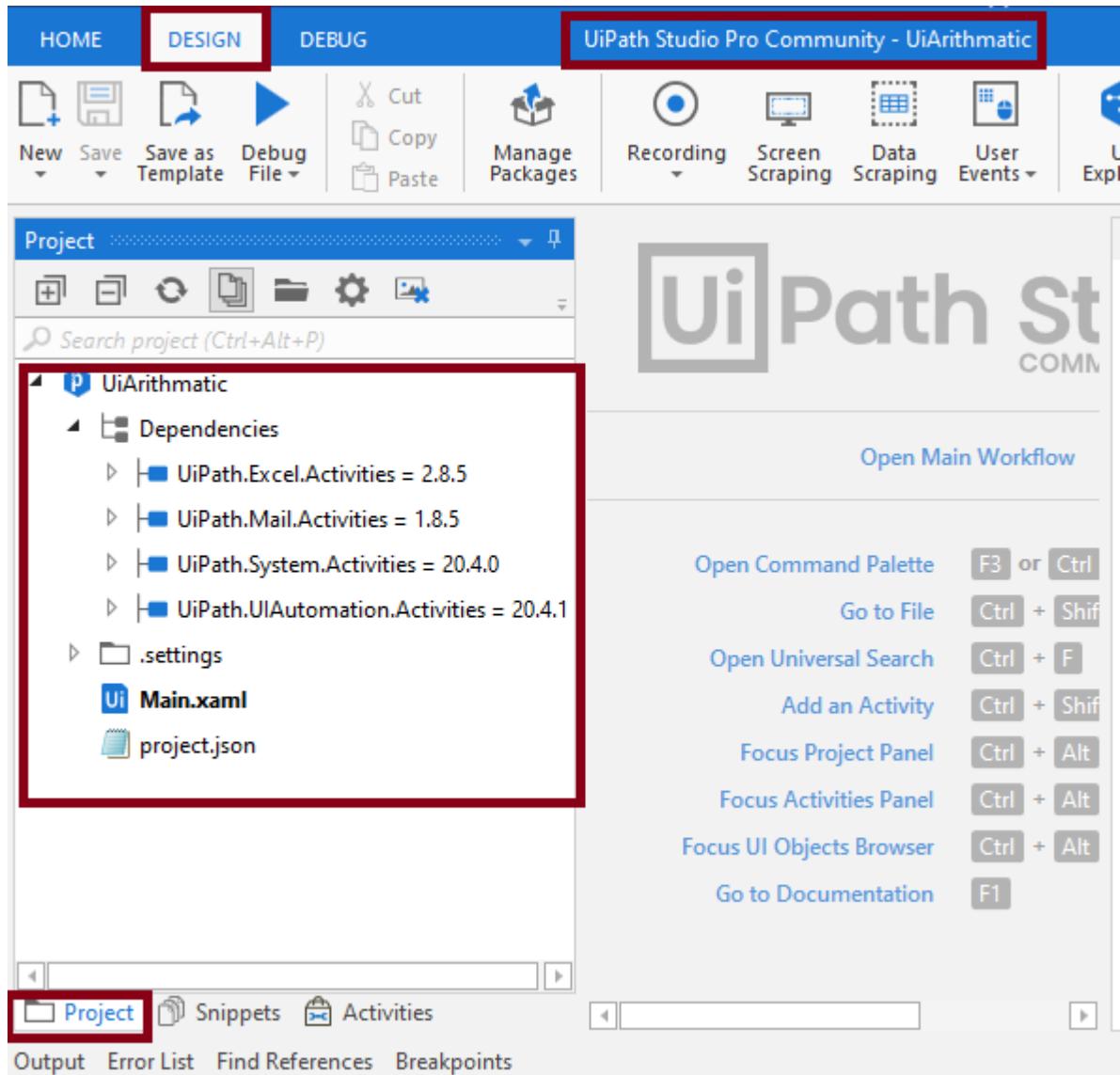
Step 2

Now, create a New Blank Process, name it UiArithmatic and give it a description



Step 3

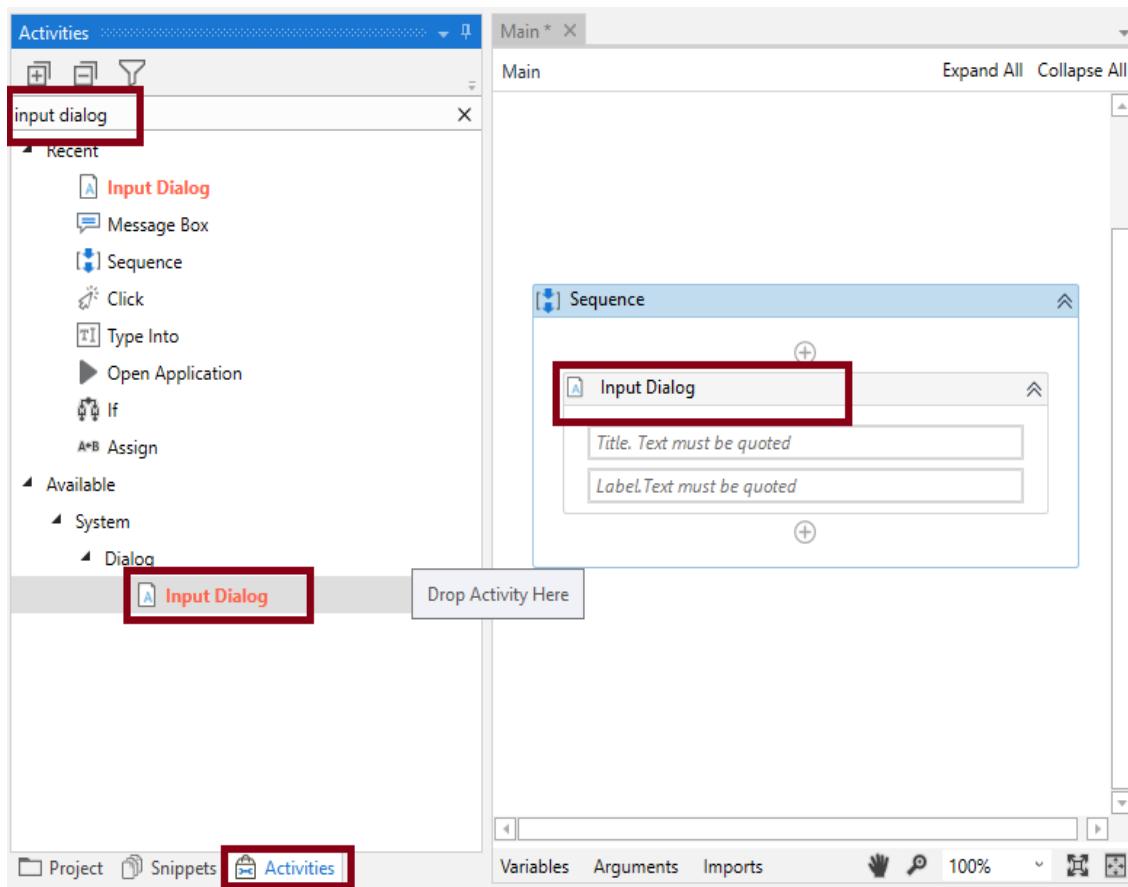
After that, UiPath studio creates the project UiArithmatic with the supporting files:



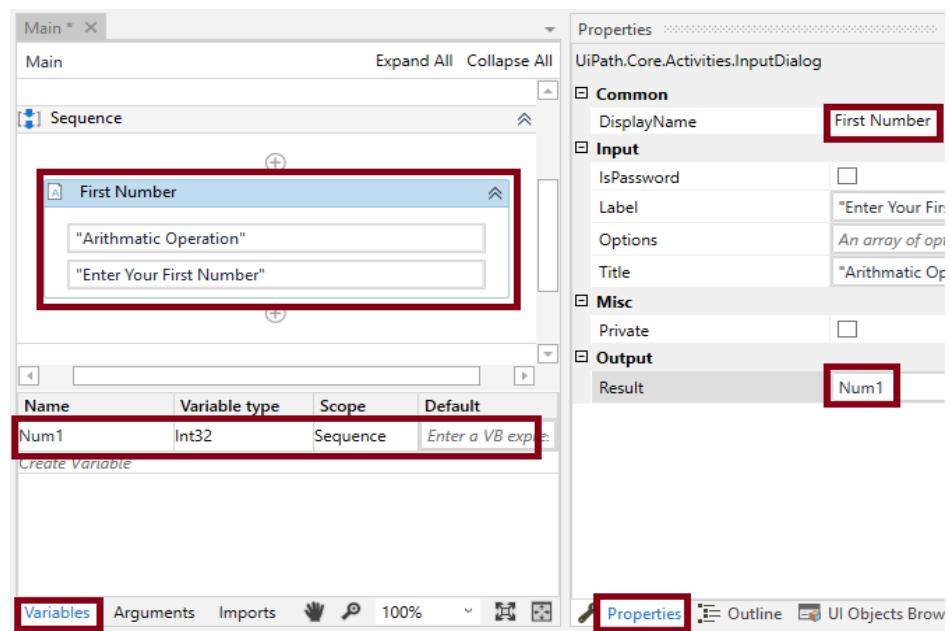
Step 4

Next, to perform arithmetic operations:

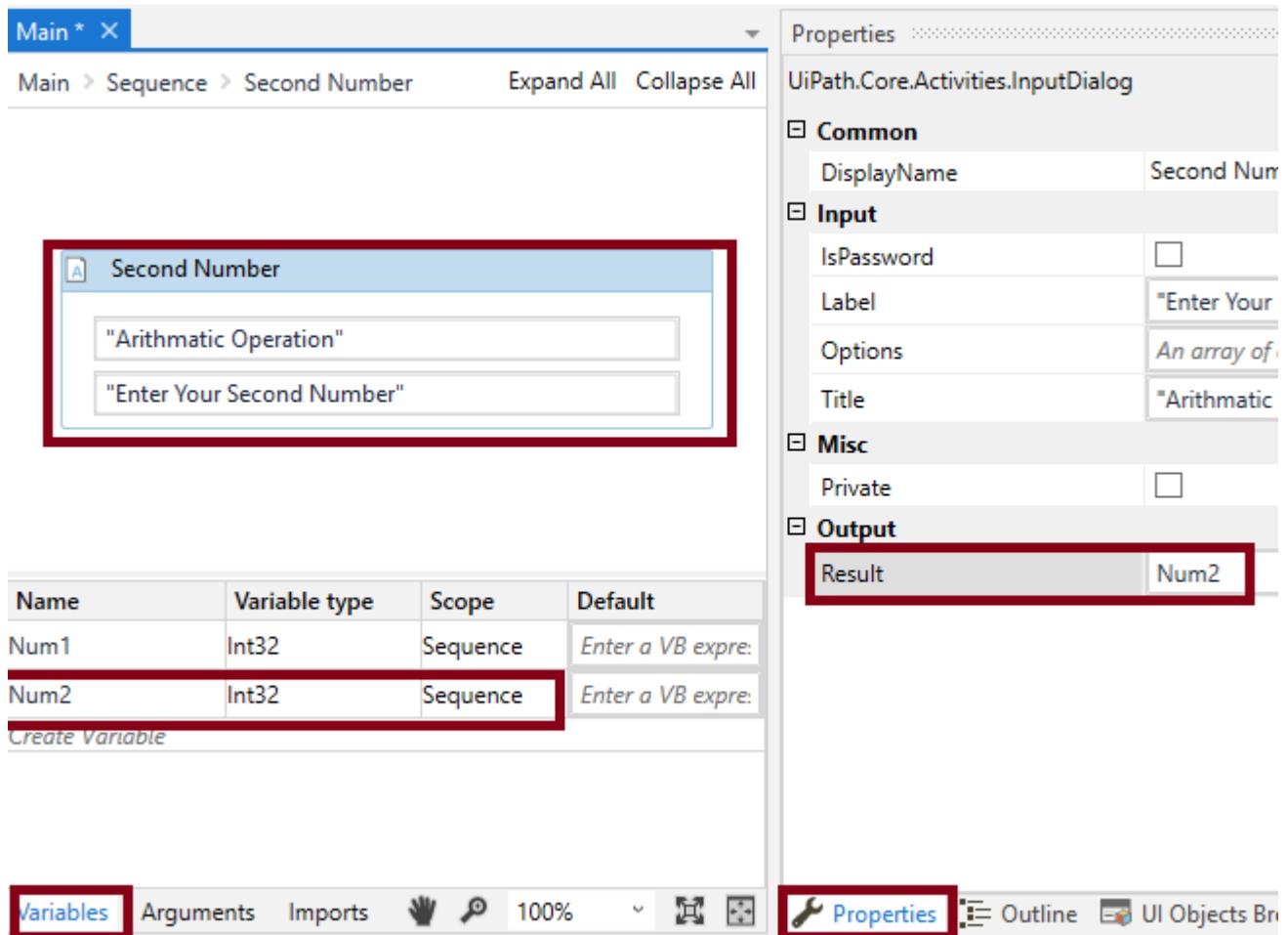
Double-click the Main.xaml workflow, Click Activities -> search Input Dialog ->Drag and drop it into the sequence:



For reading the First Number, set the values Display name, Label, Title, Result (for the result value, go to variables tab and create a variable Num1 in the property window)



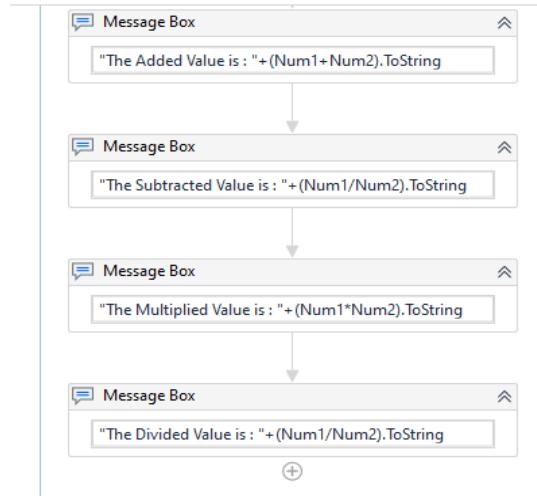
Similarly, create one more Input Dialog for Second Number, set the values Display name, Label, Title, Result (for the result value, go to variables tab and create a variable Num2 in the property window).



Step 5

For Arithmetic operations:

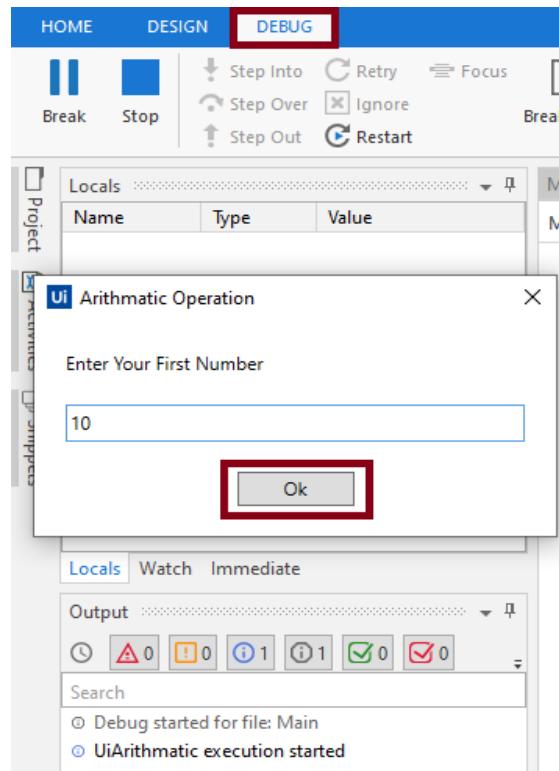
Click Activities -> search message box -> Drag and drop it into the sequence, then edit the text in 4 message boxes Addition, Subtraction, Multiplication, and Division,



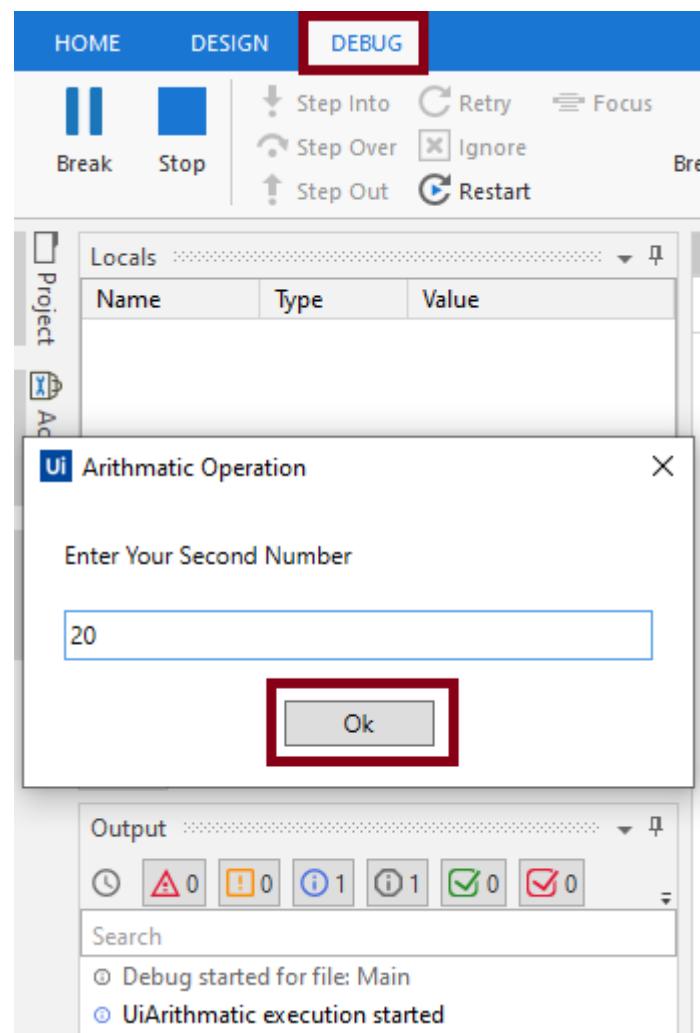
Step 5

To run your project, select debug file -> Run, The output of the UiArithmatic project is:

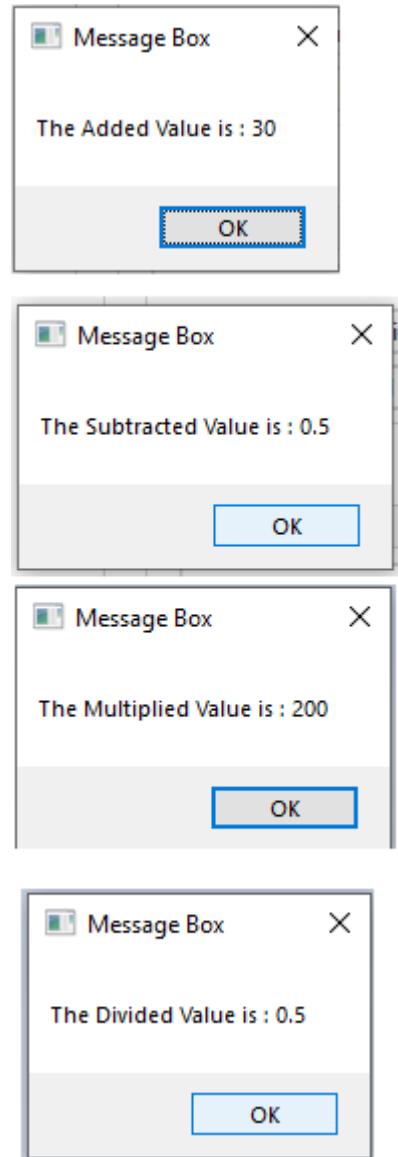
Read the First Number:



Read the Second Number:



The result of the arithmetic operation is:



Conclusion : Thus We Have Studied To Automate Uipath Number Calculation (Subtraction, Multiplication, Division Of Numbers).

2B] Create An Automation Uipath Project Using Different Types Of Variables (Number, Datetime, Boolean, Generic, Array, Data Table).

Create Variables

To create variables in UiPath, the following are the two options available.

- Select an activity and press on Ctrl + K in the output section of the Properties Pane.
- Click on the Variable Pane as below.

Name	Variable type	Scope	Default
variable1	String	Flowchart	Enter a VB expression
Create Variable			

Remove Variables

To remove variables in UiPath, the following are the two options available.

- Choose variable from Variable Pane -> Right Click -> Choose Delete.
- Choose the option “Remove Unused Variables” from Design Tab.

Name	Variable type	Scope	Default
variable1	String	Flowchart	Enter a VB expression
Create Variable			

The first option would remove only the selected variable and the second option would remove all the unused variables in the sequence.

Manage Variables

To manage variables in UiPath, the following are the two parameters you have to consider. Refer below.

- Mention the Scope of the Variable.
- Mention the Default value(You do not have to mention the default value for each and every variable).

Now, let us move forward and see the various types of variables.

Types of Variables

The various types of variables are as follows:

- Text Variables – This type of variables is used to store the text values.
- True/False Variables – This type of variables is used to store Boolean values.
- Number Variables – This type of variables is used to store Integer values.
- Array Variables – This type of variables is used to store an array of integers or string.
- Date and Time Variables – This types of variables is used to store date and time variables.
- Data Table Variables – This type of variables is used to store Data Table, which stores the values in the form of table.

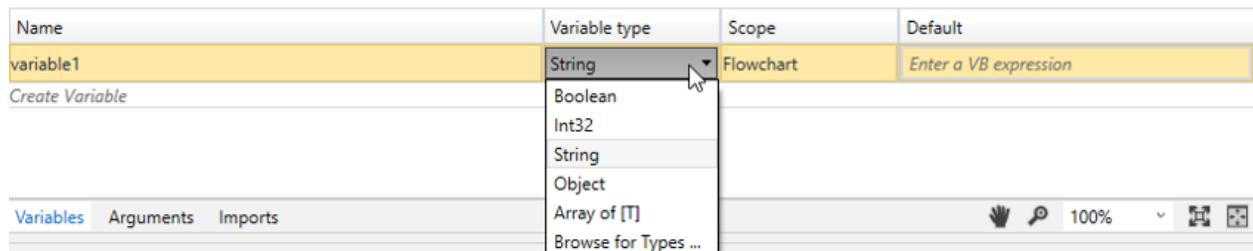
- Generic Variables – This type of variables is used to store generic type such as Mail Merge, Database etc.

Now, let us move forward to the next topic i.e. Data Types in UiPath.

Data Types InUiPath

Data Types classify the type of the value of the variable. In UiPath, it could either be an Integer, String, Boolean, Generic or an Array Of.

So, to choose the data type of the variables, you have to go to the Variable Pane and then choose the Variable Type. Refer below.



Conclusion :Thus we have studied to Create An Automation Uipath Project Using Different Types Of Variables (Number, Datetime, Boolean, Generic, Array, Data Table).

PRACTICAL NO: 3

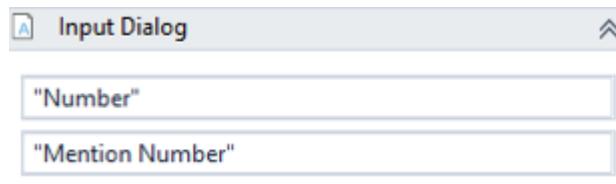
3A] Create An Automation Uipath Project Using Decision Statements.

If & Else Statement :

This activity decides whether a certain activity or a block of activities will be executed or not. To explain you the functionality of this activity, let us create an automation task to find whether a number is even/odd.

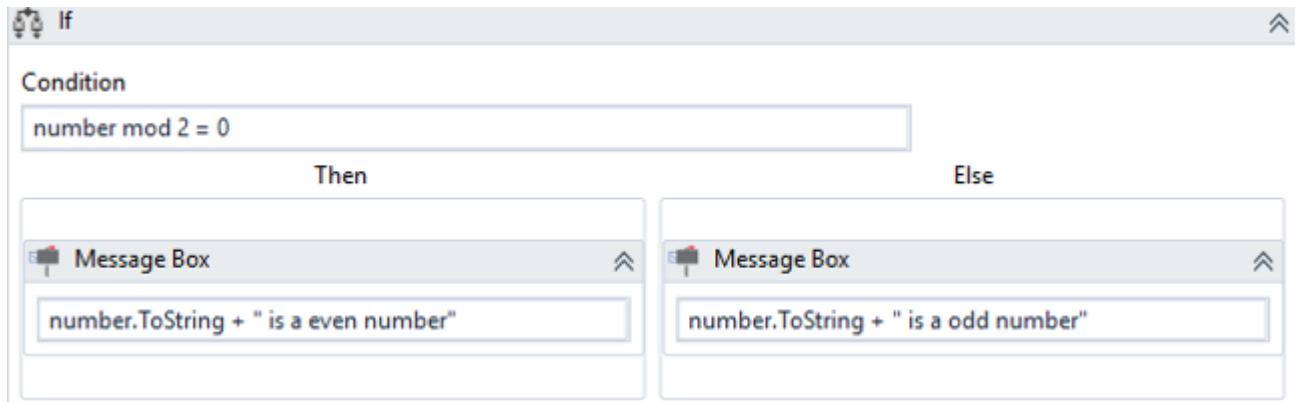
Find whether a number is even/odd

Step 1: Drag a Input Dialog and mention the Title and Label. Here I want to mention the Input as number, so I have mentioned the Title as “Number” and Label as “Mention Number”. Refer below.

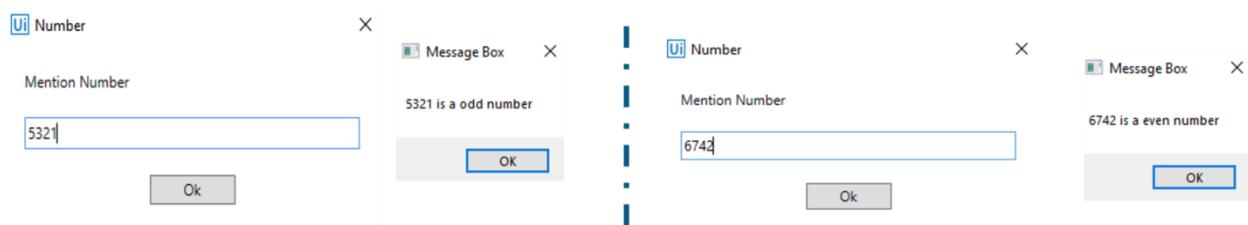


Step 2: In the Properties pane of this activity, go to the output section and press on Ctrl + K to create a variable. Here I have created a variable ‘number’ of Int32 Type.

Step 3: Drag an If activity and in the condition section mention $\text{number mod } 2 = 0$. After that, in the Then section drag a message box and mention `number.ToString + " is a even number"` and in the Else section drag a message box and mention `number.ToString + " is a odd number"`. Refer below.



When you execute this particular sequence you would get a input dialog to enter a number. If the number which you enter is even, then you will see an output that number is even else would see an output that number is odd.



❖ Switch Activity

This activity enables you to select one choice out of multiple, based on the value of a specified expression. To explain you the functionality of this activity, let us create an automation task to find whether sum of two numbers is even/odd.

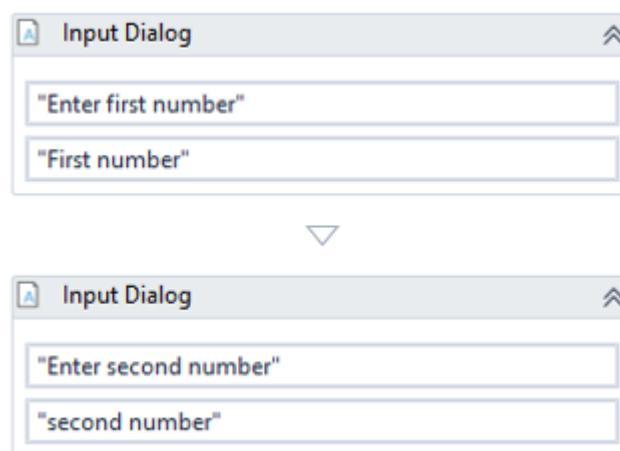
Sum of two numbers is even/odd

Step 1: Drag a Input Dialog and mention the Title and Label. Here I want to mention the Input as the first number, so I have mentioned the Title as “Enter first number” and Label as “First Number”.

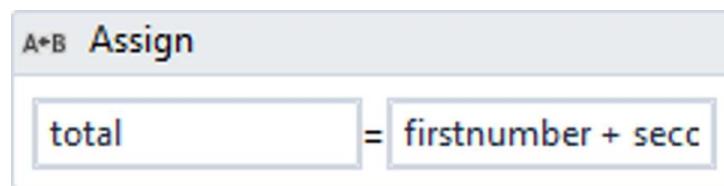
Step 1.1: In the Properties pane of this activity, go to the output section and press on Ctrl + K to create a variable. Here I have created a variable ‘firstnumber’ of Int32 Type.

Step 2: Drag a Input Dialog again and mention the Title and Label. Here I want to mention the Input as the second number, so I have mentioned the Title as “Enter first number” and Label as “First Number”.

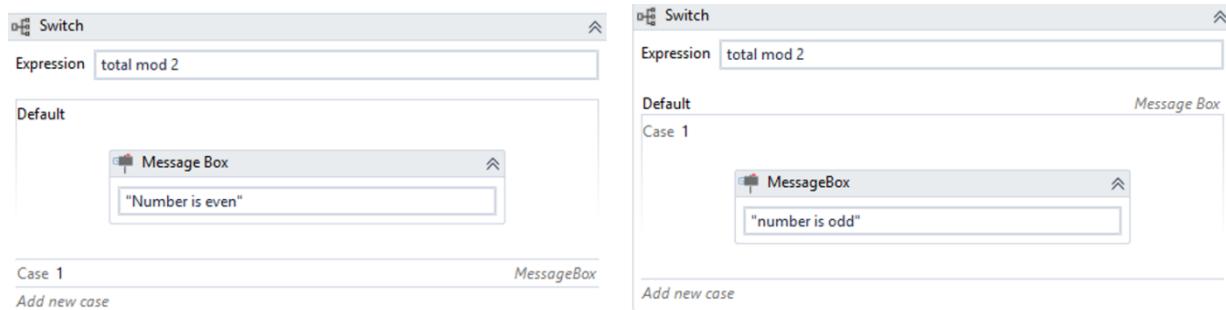
Step 2.1: In the Properties pane of this activity, go to the output section and press on Ctrl + K to create a variable. Here I have created a variable ‘secondnumber’ of Int32 Type. Refer below.



Step 3: After that drag the Assign activity, and assign the To section to total and the value section to firstnumber + secondnumber. This will increase the counter by 1, until the condition is satisfied. (Here total is a variable of Int32 type, which you have to create).



Step 4: Drag the Switch activity and in the Expression section mention total mod 2 = 0. Now, in the Default section drag a message box to display the output “Number is even”. Similarly in the Case 1 section drag a message box to display the output “Number is odd”.



When you execute this particular sequence you would get two input dialog one after the other to enter a number. If the sum of the numbers which you entered is even, then you will see an output that number is even else would see an output that number is odd.

Conclusion : Thus we have studied to Create An Automation Uipath Project Using Decision Statements.

3B] Create An Automation Uipath Project Using Looping Statements.

For,While,Do While**❖ While Activity**

This activity enables you to execute a specific process repeatedly, while a specific condition is met. To explain you the functionality of this activity, let us create an automation task to print the numbers 1-10.

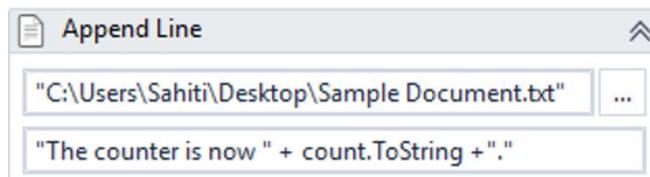
Print Numbers 1-10

Step 1: Drag the While activity and in the condition section mention the condition count < 10. But, before that create the variable count.

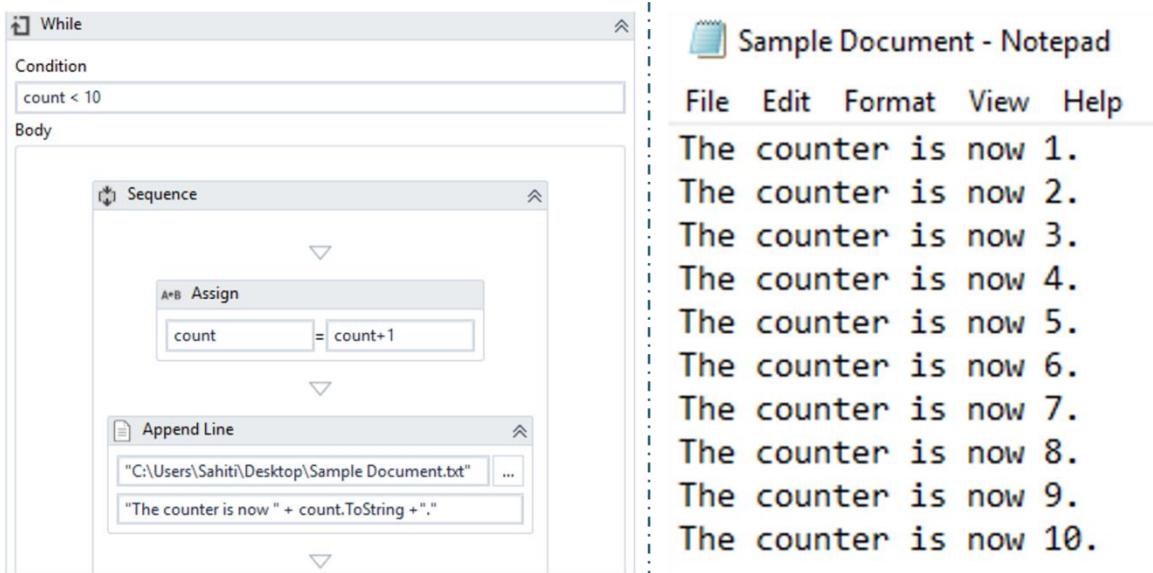
Step 2: In the Body section of this activity, drag an Assign activity, and assign the To section to count and the value section to count + 1 function. This will increase the counter by 1, until the condition is satisfied. Refer below.



Step 3: Drag the Append Line activity and mention the File Name, where you want to store the Text that you will quote in this activity. Over here, I have mentioned the Text to be "The counter is now " + count.ToString + ". Refer below.



Your final flow of execution and output will look like below.



Now, let us move forward to the next activity i.e. Do-While activity.

❖ Do While Activity

This activity enables you to execute a specified part of your automation while a condition is met. To explain you the functionality of this activity, let us create an automation task to print the numbers 1-10.

Print Numbers 1-10

Step 1: Drag the Do-While activity and condition section mention the condition count < 10. But, before that create the variable count.

Step 2: In the Body section of this activity, drag an Assign activity, and assign the To section to count and the value section to count + 1. This will increase the counter by 1, until the condition is satisfied. Refer below.



Step 3: Drag the Append Line activity and mention the File Name, where you want to store the Text that you will quote in this activity. Over here, I have mentioned the Text to be "The counter is now " + count.ToString() + ". Refer below.

The screenshot shows a UiPath RPA project. In the 'Body' section, there is a 'Sequence' activity. Inside the sequence, there is an 'Assign' activity where 'count' is set to 'count + 1'. Below it is an 'Append Line' activity, which appends the string "The counter is now " + count.ToString() + "." to the file "C:\Users\Sahiti\Desktop\example.txt". Below the sequence is a 'Condition' activity with the expression "count < 10". To the right, a 'Notepad' window titled 'example - Notepad' is open, showing the following text:

```

File Edit Format View Help
The counter is now 1.
The counter is now 2.
The counter is now 3.
The counter is now 4.
The counter is now 5.
The counter is now 6.
The counter is now 7.
The counter is now 8.
The counter is now 9.
The counter is now 10.

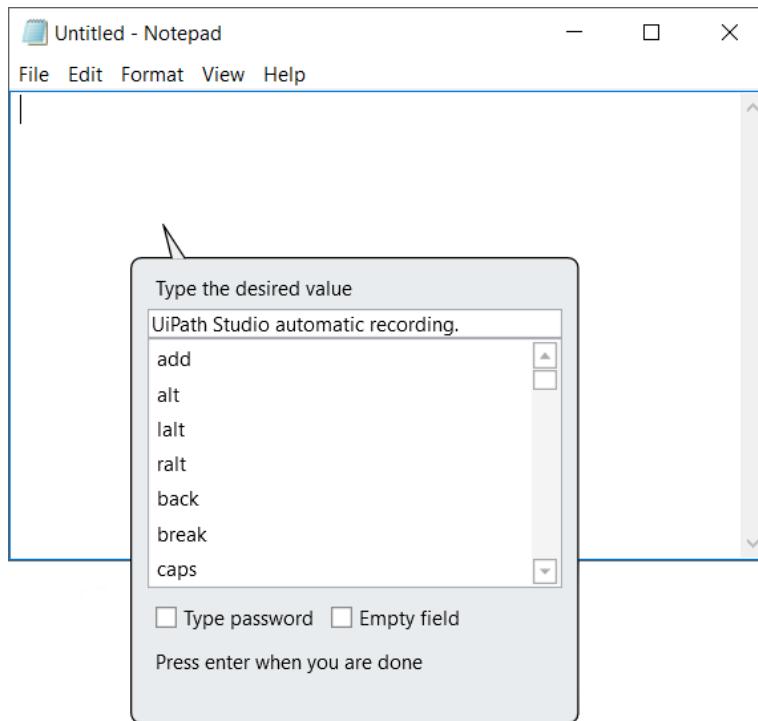
```

Conclusion : Thus we have studied to Create An Automation Uipath Project Using Looping Statements.

PRACTICAL NO: 4

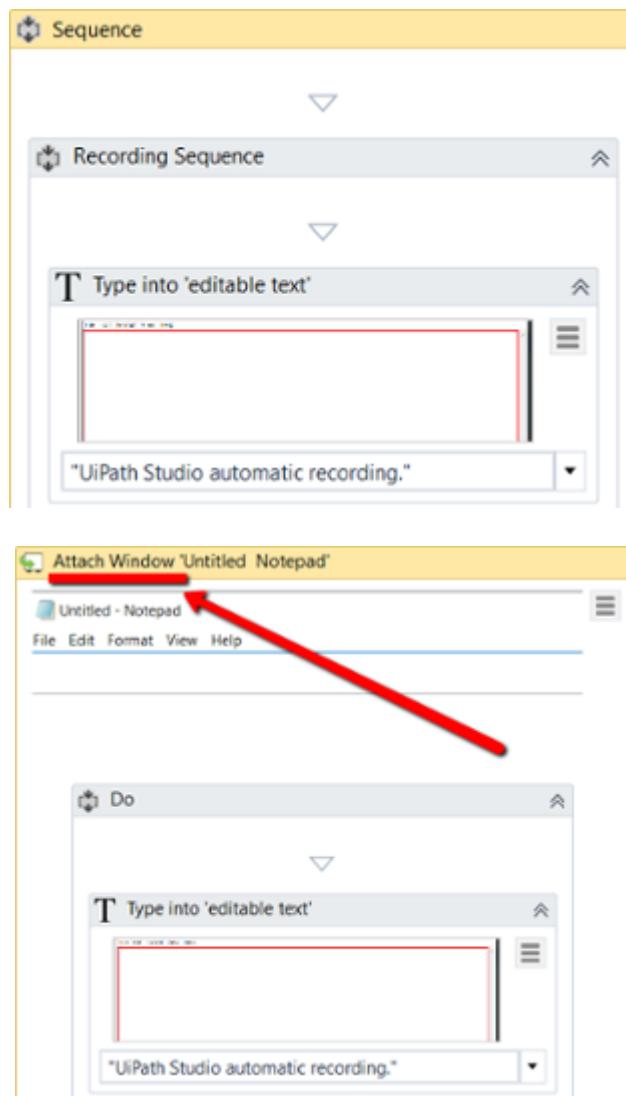
4A] Automate Any Process Using Basic Recording.

1. Open Notepad.
2. In UiPath Studio, create a new sequence.
3. a. In the Design ribbon tab, in the Wizards group, select Record > Basic. The Basic Recording toolbar is displayed and the main view is minimized.
b. In the Design ribbon tab, in the Wizards group, select Record > Desktop. The Desktop Recording toolbar is displayed and the main view is minimized.
4. In the Wizards group, click Automatic Recorder. The automating recording process starts.
5. In Notepad, click on the main panel. A pop-up window is displayed.

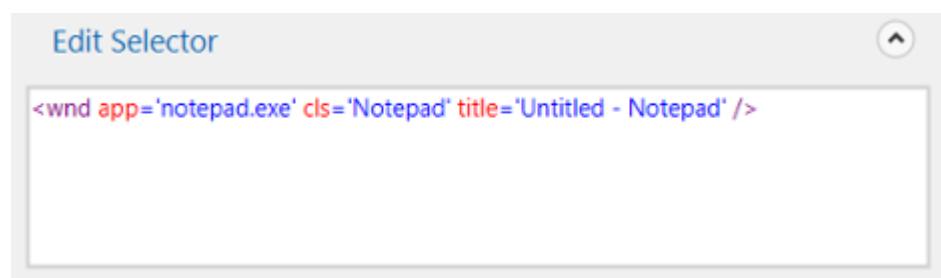


6. Type a custom text and press Enter. The string is displayed in Notepad.
7. From the Format menu, select Font. The Font window is displayed.
8. Select a different font style, such as Bold Italic, and click OK.
9. Press Esc two times. You exit the recording view and the saved project is displayed in the Designer panel.
10. Press F5. The automation is executed as expected.

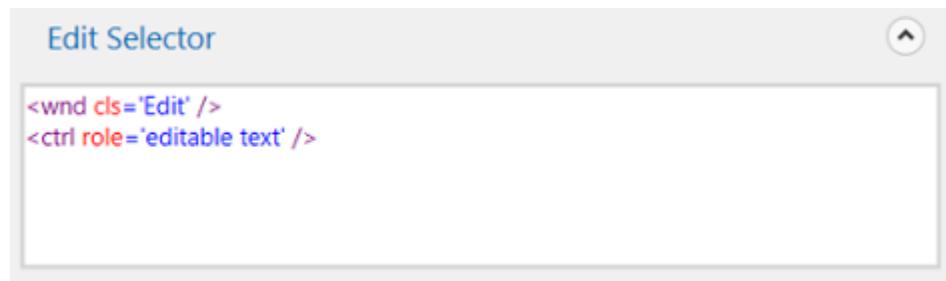
The two screenshots below display part of the resulted projects for the Basic (first screenshot) and Desktop (second screenshot) automatic recordings. As you can see, the second one generates an Attach Window container, while the Basic one does not.



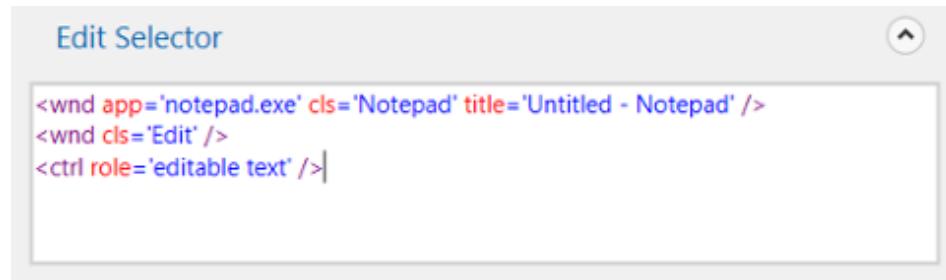
Desktop recorder - The top level window selector from the Attach Window container:



Desktop recorder - The partial selector for the Type Into activity:



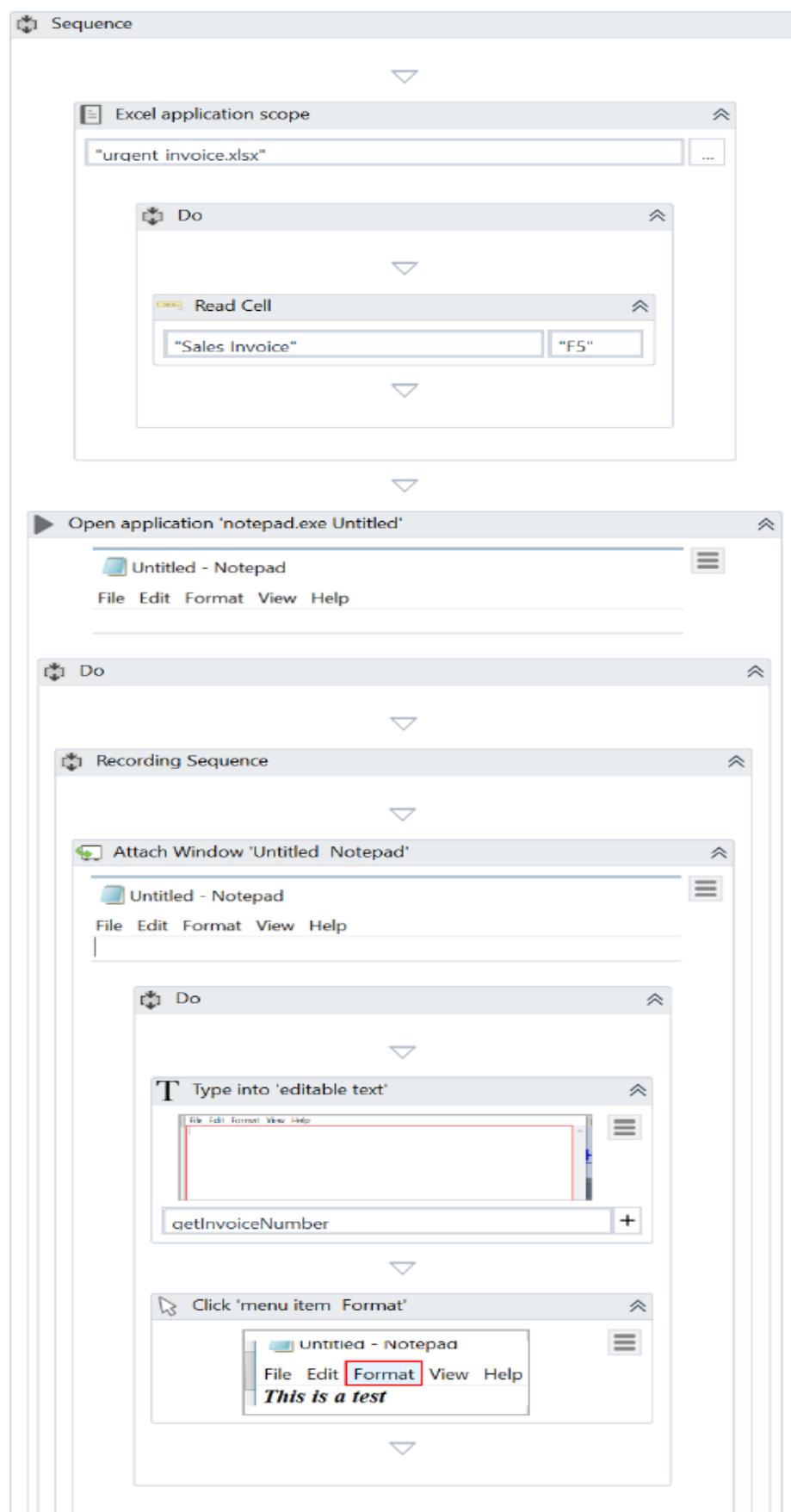
Basic recorder – The full selector for the Type Into activity:



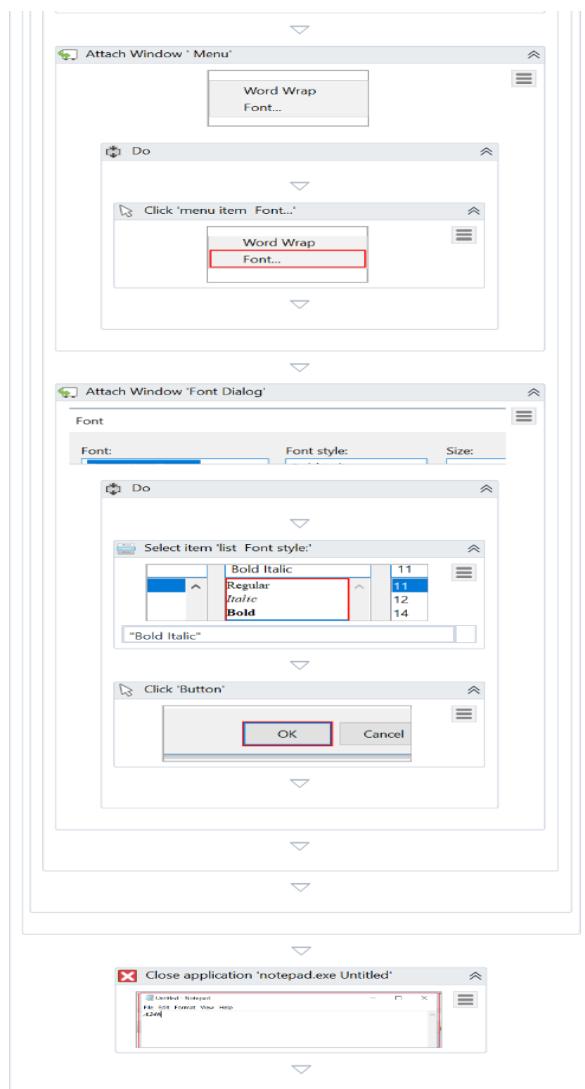
You can also customize and parameterize this project after it is recorded. To exemplify this, let's take the Desktop recording example and build upon it.

For example, let's assume that we want to extract the number of an invoice from an Excel file, copy it to a new Notepad application which we close in the end.

1. Add an Excel Application Scope activity before the recording sequence.
 2. In the WorkbookPath field, type the path of the Excel file you need to extract information from.
 3. Add a Read Cell activity in the Excel Application Scope.
 4. In the Properties panel, add the Sheet Name and Cell information from the Excel file used.
 5. Right-click in the Result field, and click Create Variable. The Set Name field is displayed.
 6. Fill in the name, such as genInvoiceNumber, and press Enter. The variable of type 'GenericValue' is created and displayed in the Result field and Variables panel.
 7. Change the scope of the variable to Main.
 8. In the recording sequence, in the Type Into activity, in the Text field, add the genInvoiceNumber variable. This copies the value stored in the variable to Notepad.
- What was added to the project should look as in the following screenshot.



9. Add an Open Application activity between Excel Application Scope and the Recording sequence.
10. Use Indicate window on screen to select the active Notepad window.
11. Place the Recording sequence inside the Open Application activity.
12. Add a Close Application activity after Open Application.
13. Use Indicate window on screen again to select the active Notepad window to be closed.
14. Make sure the OffsetX and OffsetY properties (Cursor Position) are empty.
What was added to the project should look as in the following screenshot.

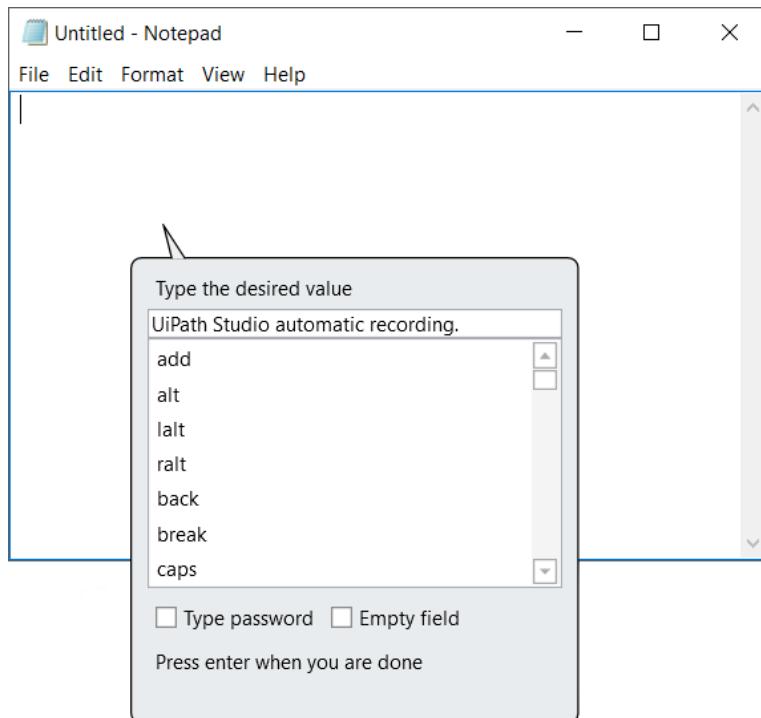


15. Press F5. The automation is executed as expected.

Conclusion : Thus we have studied to Automate Any Process Using Basic Recording.

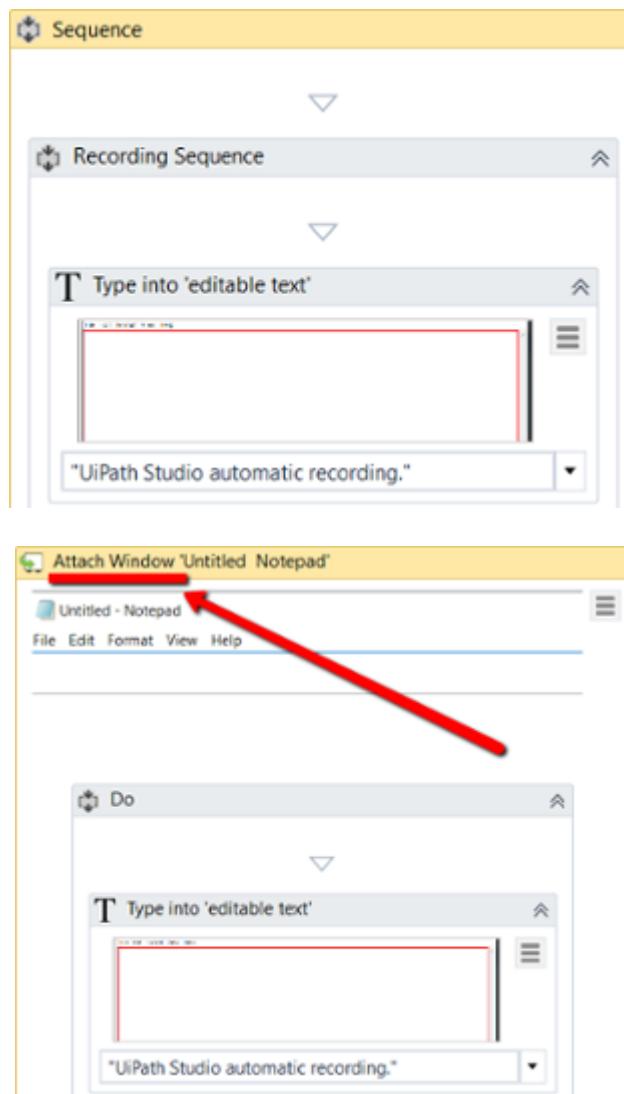
4B] Automate Any Process Using Desktop Recording.

1. Open Notepad.
2. In UiPath Studio, create a new sequence.
3. a. In the Design ribbon tab, in the Wizards group, select Record > Basic. The Basic Recording toolbar is displayed and the main view is minimized.
b. In the Design ribbon tab, in the Wizards group, select Record > Desktop. The Desktop Recording toolbar is displayed and the main view is minimized.
4. In the Wizards group, click Automatic Recorder. The automating recording process starts.
5. In Notepad, click on the main panel. A pop-up window is displayed.

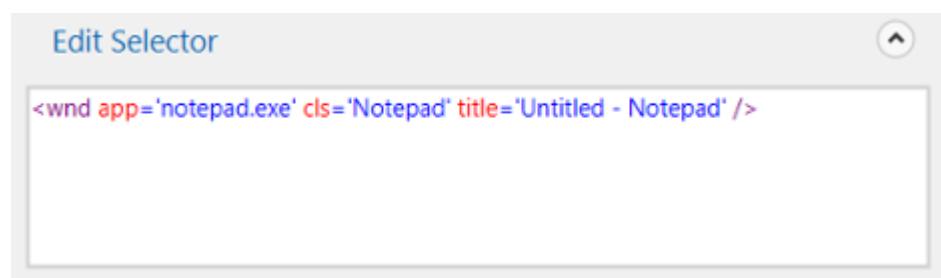


6. Type a custom text and press Enter. The string is displayed in Notepad.
7. From the Format menu, select Font. The Font window is displayed.
8. Select a different font style, such as Bold Italic, and click OK.
9. Press Esc two times. You exit the recording view and the saved project is displayed in the Designer panel.
10. Press F5. The automation is executed as expected.

The two screenshots below display part of the resulted projects for the Basic (first screenshot) and Desktop (second screenshot) automatic recordings. As you can see, the second one generates an Attach Window container, while the Basic one does not.



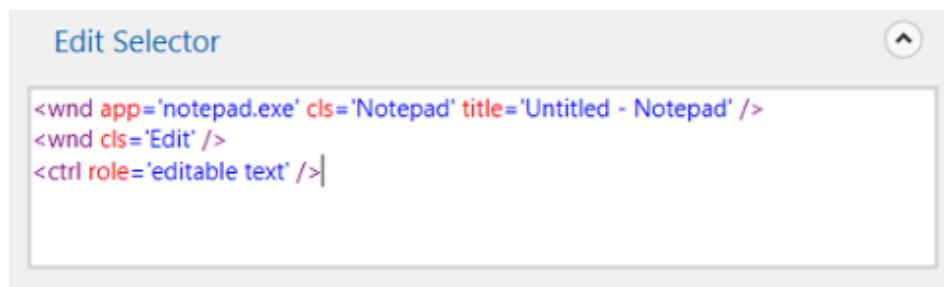
Desktop recorder - The top level window selector from the Attach Window container:



Desktop recorder - The partial selector for the Type Into activity:



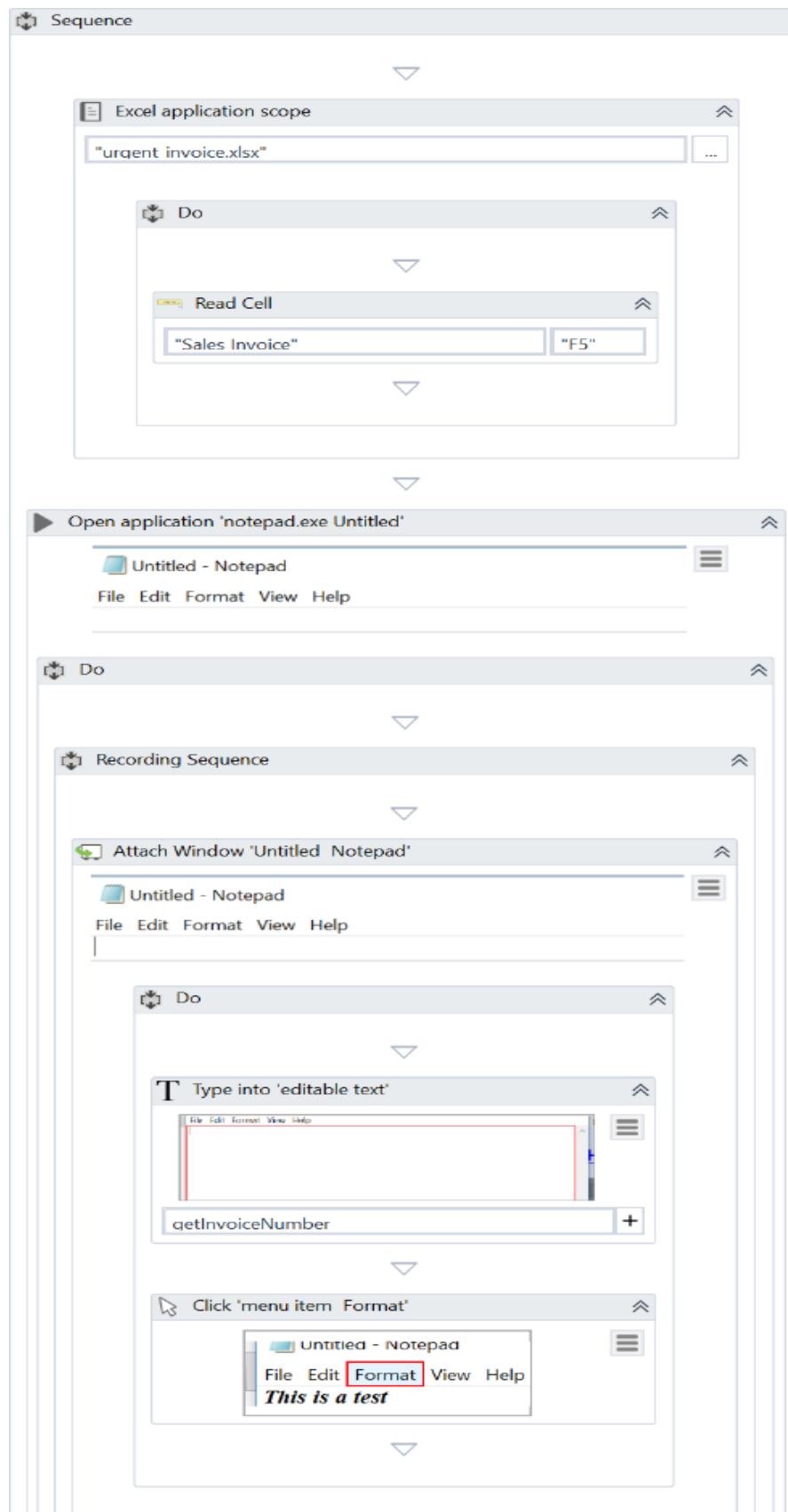
Basic recorder – The full selector for the Type Into activity:



You can also customize and parameterize this project after it is recorded. To exemplify this, let's take the Desktop recording example and build upon it.

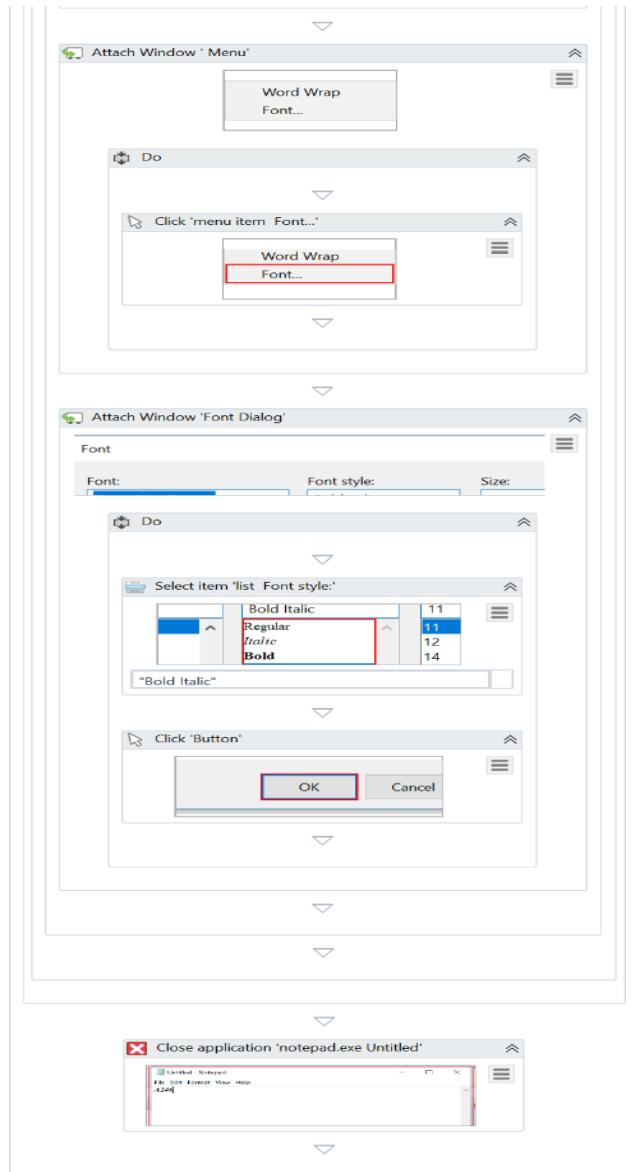
For example, let's assume that we want to extract the number of an invoice from an Excel file, copy it to a new Notepad application which we close in the end.

11. Add an Excel Application Scope activity before the recording sequence.
 12. In the WorkbookPath field, type the path of the Excel file you need to extract information from.
 13. Add a Read Cell activity in the Excel Application Scope.
 14. In the Properties panel, add the Sheet Name and Cell information from the Excel file used.
 15. Right-click in the Result field, and click Create Variable. The Set Name field is displayed.
 16. Fill in the name, such as genInvoiceNumber, and press Enter. The variable of type 'GenericValue' is created and displayed in the Result field and Variables panel.
 17. Change the scope of the variable to Main.
 18. In the recording sequence, in the Type Into activity, in the Text field, add the genInvoiceNumber variable. This copies the value stored in the variable to Notepad.
- What was added to the project should look as in the following screenshot.



15. Add an Open Application activity between Excel Application Scope and the Recording sequence.
16. Use Indicate window on screen to select the active Notepad window.
17. Place the Recording sequence inside the Open Application activity.

18. Add a Close Application activity after Open Application.
19. Use Indicate window on screen again to select the active Notepad window to be closed.
20. Make sure the OffsetX and OffsetY properties (Cursor Position) are empty.
What was added to the project should look as in the following screenshot.



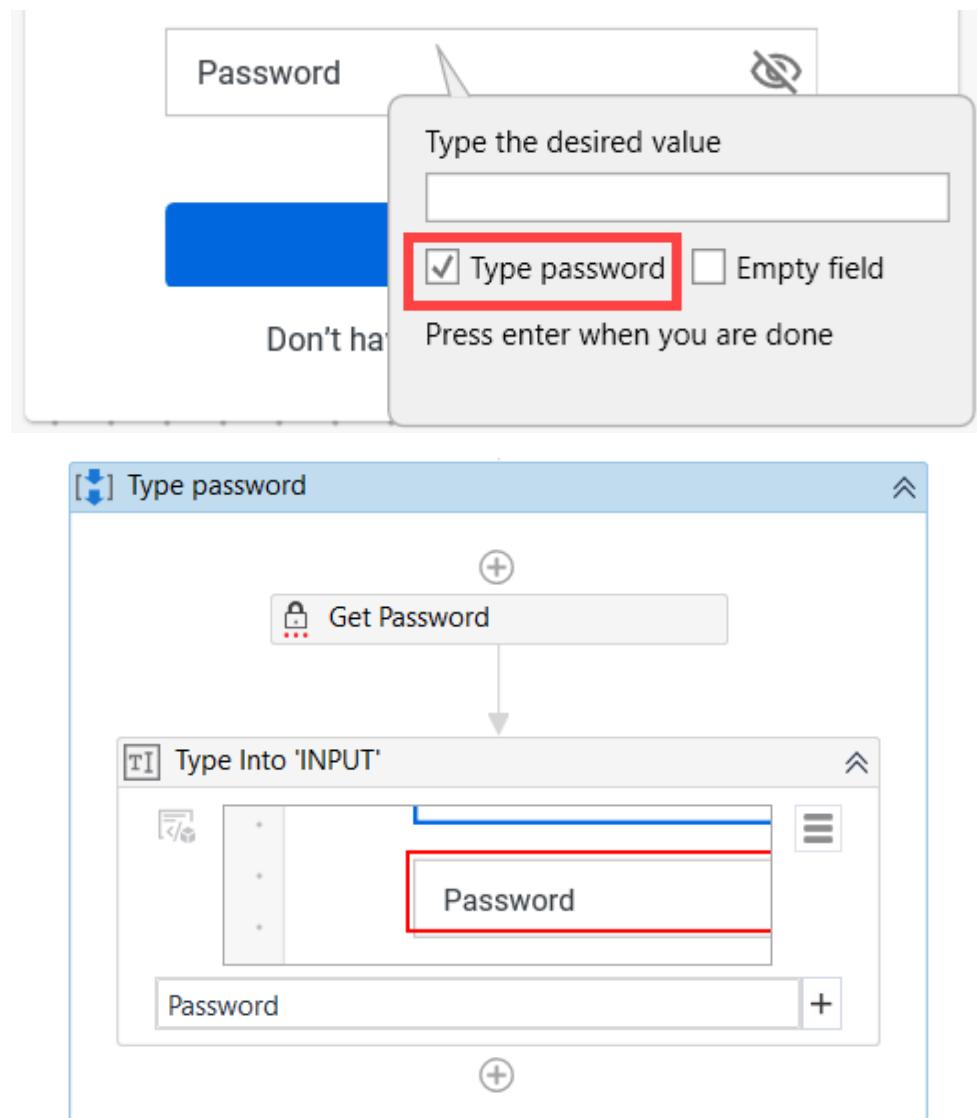
16. Press F5. The automation is executed as expected.

Conclusion : Thus we have studied to Automate Any Process Using Desktop Recording.

4C] Automate Any Process Using Web Recording.

Open an Internet Explorer instance and navigate to <https://academy.uipath.com>.

1. In UiPath Studio, create a new sequence.
2. Add an Open Browser activity to the Designer panel.
3. Select the activity and, in the Url field, write <https://academy.uipath.com>.
4. In the Design tab, in the Wizards group, select Recording > Web. The Web Recording toolbar is displayed and the main view is minimized.
5. Click Record. The automating recording process starts.
6. In Internet Explorer, click Login/ Sign up, and then select Continue with Email.
7. Enter your email address and password.



9. Click Login and press Esc two times. The recording is saved and displayed in the Designer panel.
10. Close Internet Explorer manually.
11. In Studio, add a Close Tab activity as the last activity in the Attach Browser container.

12. Press F5. The automation is executed as expected.

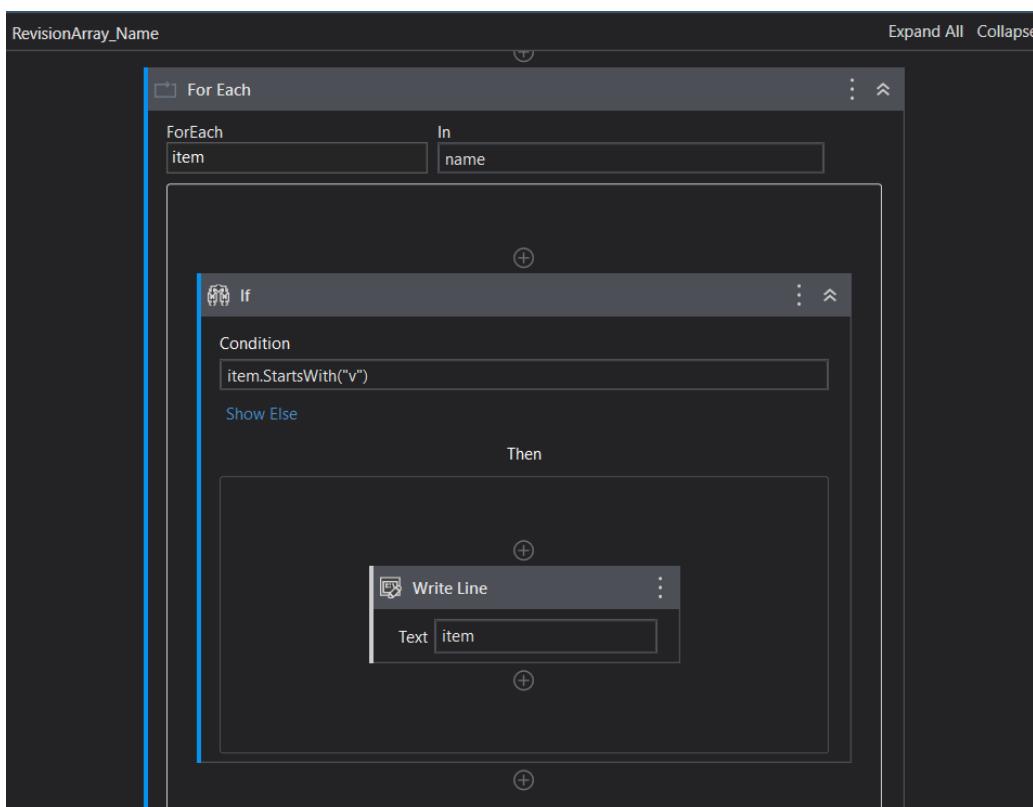
Conclusion :Thus we have studied to automate any process using web recording.

PRACTICAL NO: 5

5A] Consider an array of names. We have to find out how many of them start with the letter "a". Create an automation where the number of names starting with "a" is counted and the result is displayed

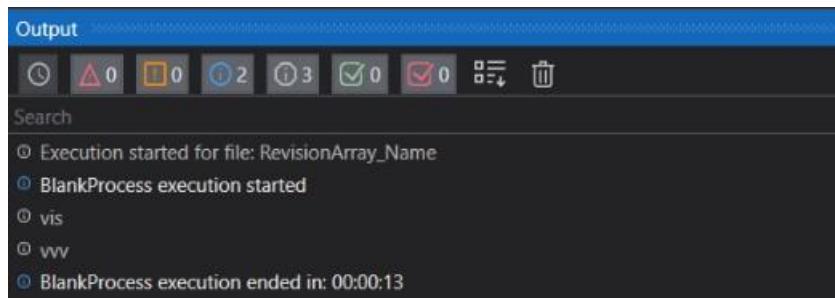
STEPS :-

1. Drag and drop a Sequence activity inside the designer panel .
2. Create a variable. Give it a name (in our case, we will create an array of type string and name the variable as “name”). Set the variable type to Array of [T].
3. Also, initialize the array in the Default section of the variable by giving it a default values. For example, {"vis", "avi", "sid", "vvv", "art"} .
4. Drag and drop a For each activity inside the Sequence. Also, specify the array name in the expression box of the For each activity .
5. Drag and drop the If activity from the Activities panel and place it inside the For each activity . Specify the condition in the expression box of the If activity.
6. Now drag and drop the writeline acitivity and place In else condition of if activity & type item



Name	Variable type	Scope	Default
name	String[]	RevisionArray_Name	{"vis", "avi", "sid", "vvv", "art"}
Create Variable			

7. Hit the Run button or press F5 and see the result



Conclusion : Thus we have studied to Consider an array of names. We have to find out how many of them start with the letter "a". Create an automation where the number of names starting with "a" is counted and the result is displayed.

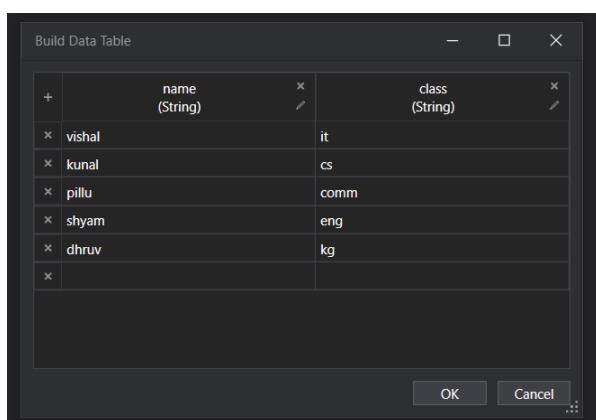
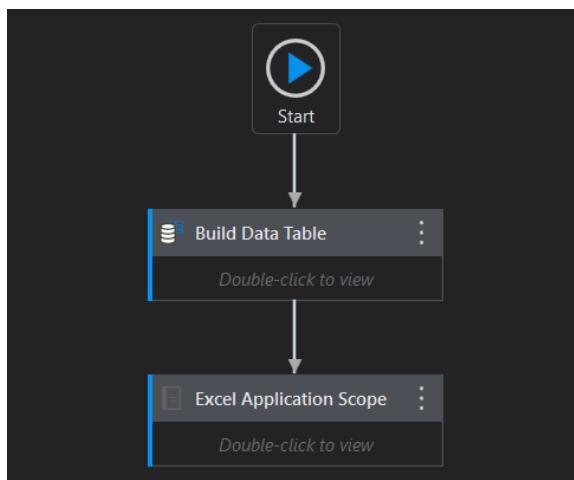
PRACTICAL NO: 6

6A] Create an application automating the read, write and append operation on excel file.

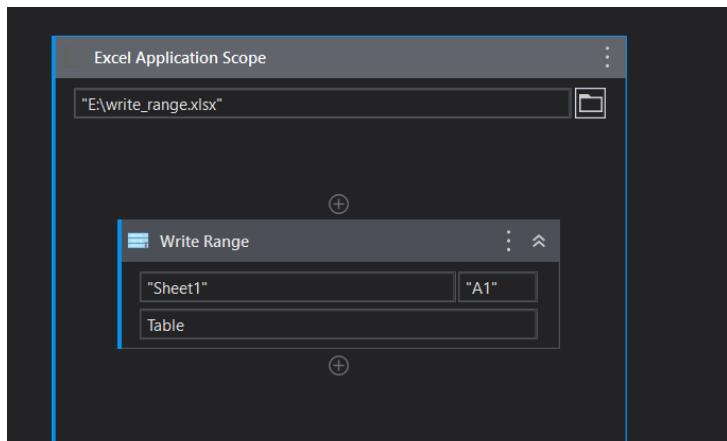
Write Range Operation :- create the data table variable for build data table

STEPS :-

1. Drag and drop a Flowchart activity on the main Designer panel.
2. Drag and drop a Build data table activity from the Activities panel. Double-click on this activity. A window will pop up. You will notice that two columns have been generated automatically. Delete these two columns. Add your column by clicking on the + icon and specify the column name. You can also select your preferred data type. You are free to add any number of columns:
3. Create a variable of type data table. Give it a meaningful name.

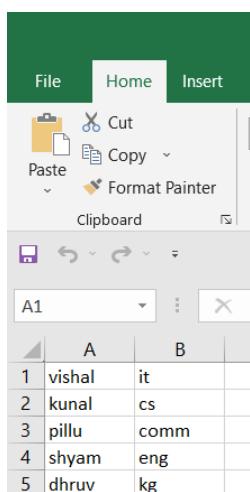


4. Drag and drop an Excel application scope inside the main Designer panel. You can either specify the Excel sheet path or manually select it. Connect this activity to the Build Data Table activity. Inside the Excel application scope activity, just drag and drop the Write Range activity:
5. Specify the data table variable name that we created earlier and set it as a Data table property inside the Write Range activity. We can also specify the range. In this case, we have assigned it as an empty string:



Name	Variable type	Scope	Default
Table	DataTable	WriteRange_M	Enter a VB expression
<i>Create Variable</i>			

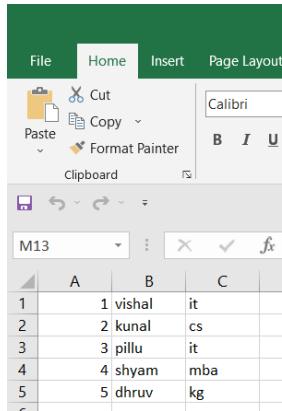
6. That's it. Hit the Run button or press F5 to see the result.



Append Range Operation :- create the data table variable for the read range –

TableSTEPS :-

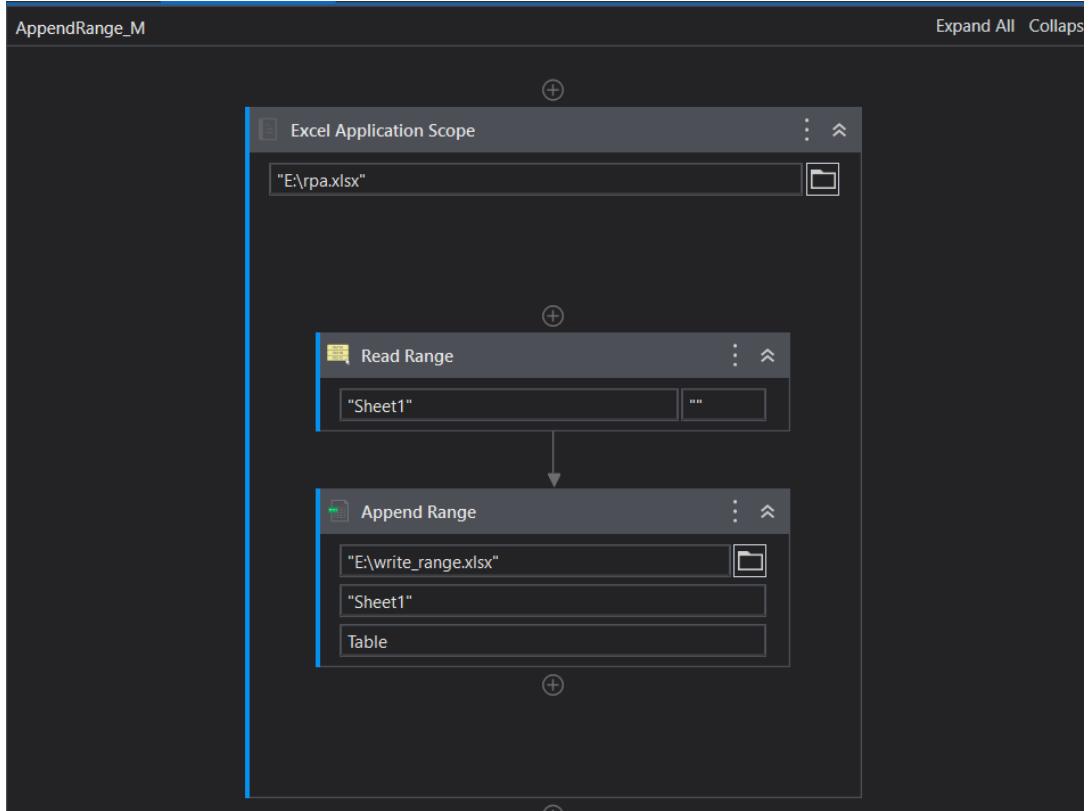
1. Drag and drop the Sequence activity on the main Designer window. Also, drag and drop the Excel application scope



A screenshot of a Microsoft Excel spreadsheet. The table has columns labeled A, B, and C. The data is as follows:

	A	B	C
1	1	vishal	it
2	2	kunal	cs
3	3	pillu	it
4	4	shyam	mba
5	5	dhruv	kg

2. Drag and drop the Read Range activity inside the Excel application scope activity. The Read Range activity produces a data table. We have to receive this data table in order to consume it. Create a data table variable and specify it in the Output property of the Read Range activity:
3. Drag and drop the Append Range activity inside the Excel application scope activity. Specify the Excel file path in the Append Range activity & Also, specify the data table.



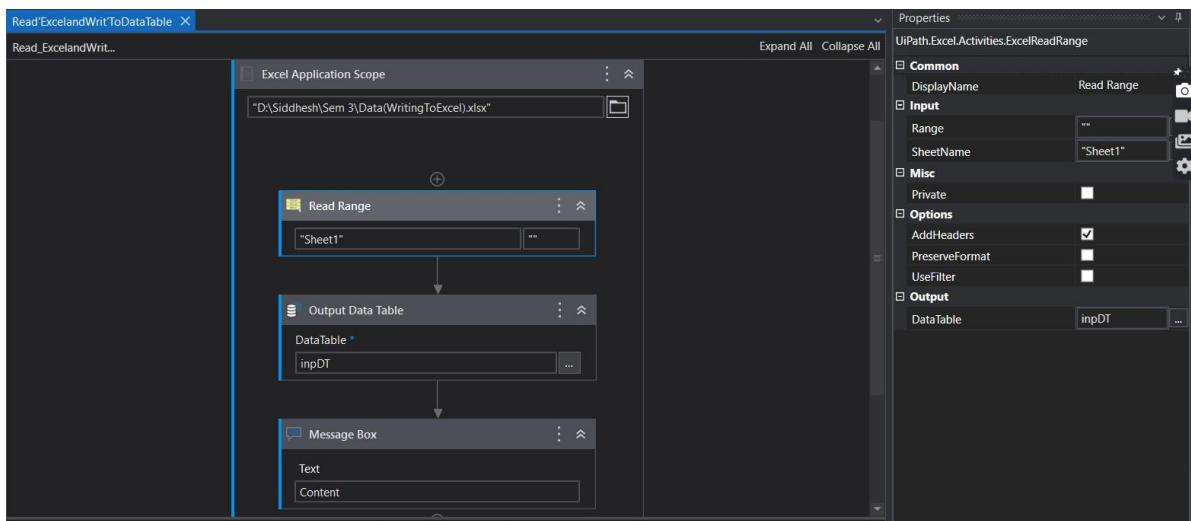
Name	Variable type	Scope	Default
Table	DataTable	Do	<i>Enter a VB expression</i>
<i>Create Variable</i>			

1. Also, specify the data table

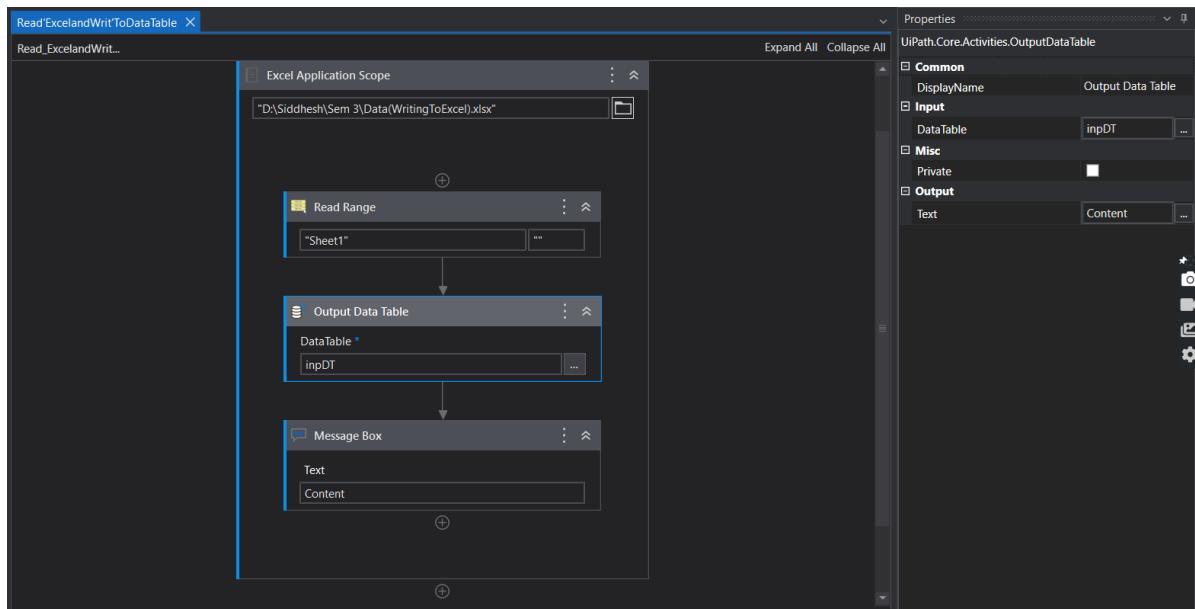
File	Home	Insert	Page Layout	Fo
 Paste  Cut  Copy 	Calibri B <i>I</i> <u>U</u> 			
	 Clipboard 			
A1				
	A	B	C	D
1	vishal	it		
2	kunal	cs		
3	pillu	comm		
4	shyam	eng		
5	dhruv	kg		
6	2	kunal	cs	
7	3	pillu	it	
8	4	shyam	mba	
9	5	dhruv	kg	
10				

Conclusion : Thus we have studied to Create an application automating the read, write and append operation on excel file.

6B] Automate the process to extract data from an excel file into a data table and vice versa.

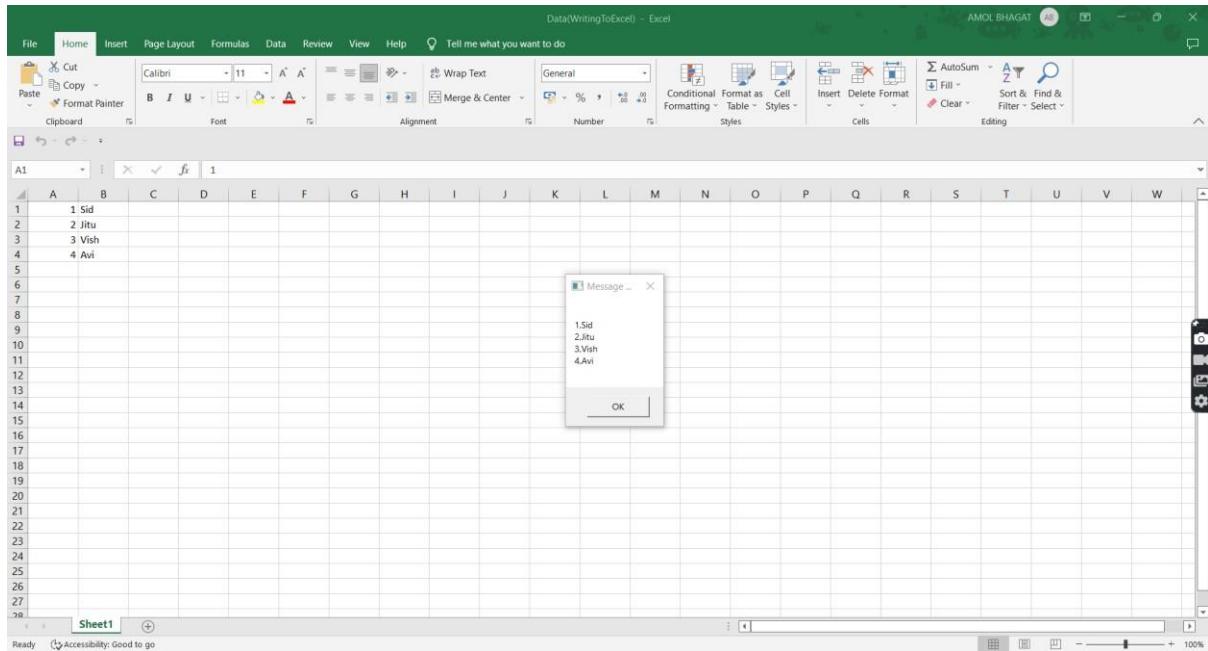


1. Create a new sequence and give it a meaningful name.
2. Drag and drop the Excel Application Scope activity inside the sequence.
3. Double-click on the Excel application scope. You must specify the path of your workbook/Excel file. Drag and drop the Read Range activity from the Activities panel inside the Excel application scope.
The Read Range activity will read the entire Excel sheet. We also have the option of specifying our range. Create a variable of type data table and specify it in the Output property of the Read Range activity. This variable will receive the data table produced by the Read Range activity.
4. Drag and drop the Output Data Table activity inside the Excel application scope activity. Now, we must specify two properties of the Output Data Table activity: the Data Table property and the text property. The Data Table property of the Output Data Table activity is used to convert the Data Table into string format. The text property is used to supply its value in a string format. We have to receive this value in order to consume it. For this, let us create a variable of type string. Give it a meaningful name.

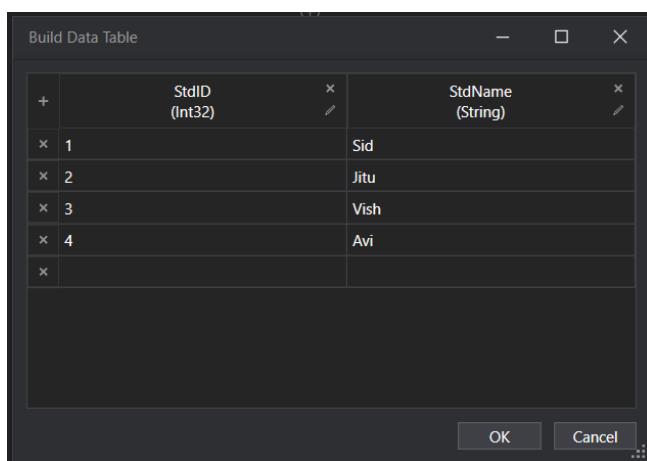


Name	Variable type	Scope	Default
inpDT	DataTable	Do	Enter a VB expression
Content	String	Do	Enter a VB expression
Create Variable			

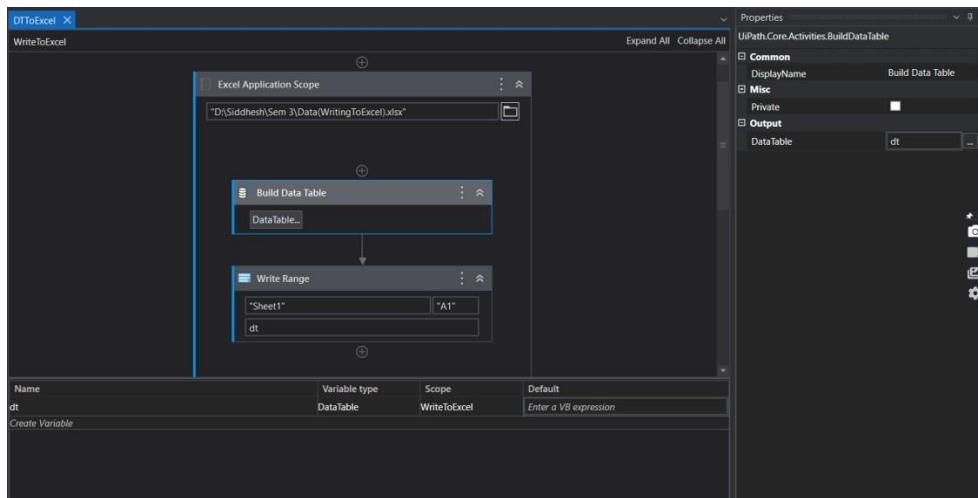
1. Drag and drop a Message box activity inside the Excel application scope activity. Also, specify the string variable's name that we created earlier inside the Message box activity.
2. Press *F5* to see the result. A window displaying the Excel file data will pop up.

OUTPUT :-**Automate the process of writing a datatable data into an excel file**

1. Add a sequence into project and give it a name.
2. Drag and drop an Excel Application Scope activity and inside it Drag and drop a Build data tableactivity from the Activities panel. Double-click on this activity. A window will pop up. Two columns have been generated automatically; delete these two columns. Add your column by clicking on the + icon and specify the column name. You can also select your preferred data type. You are free to add any number of columns



3. Create a variable of type Data Table. Give it a meaningful name. Specify this data table's name in the Data Table property of the Build data table activity. We must supply this variable in order to get the data table that we have built.
4. Drag and drop the Write Range activity. Specify the data table variable name that we created earlier. We can also specify the range. In this case, we have assigned it as an empty string
5. Hit the Run button or press F5 to see the result



OUTPUT :-

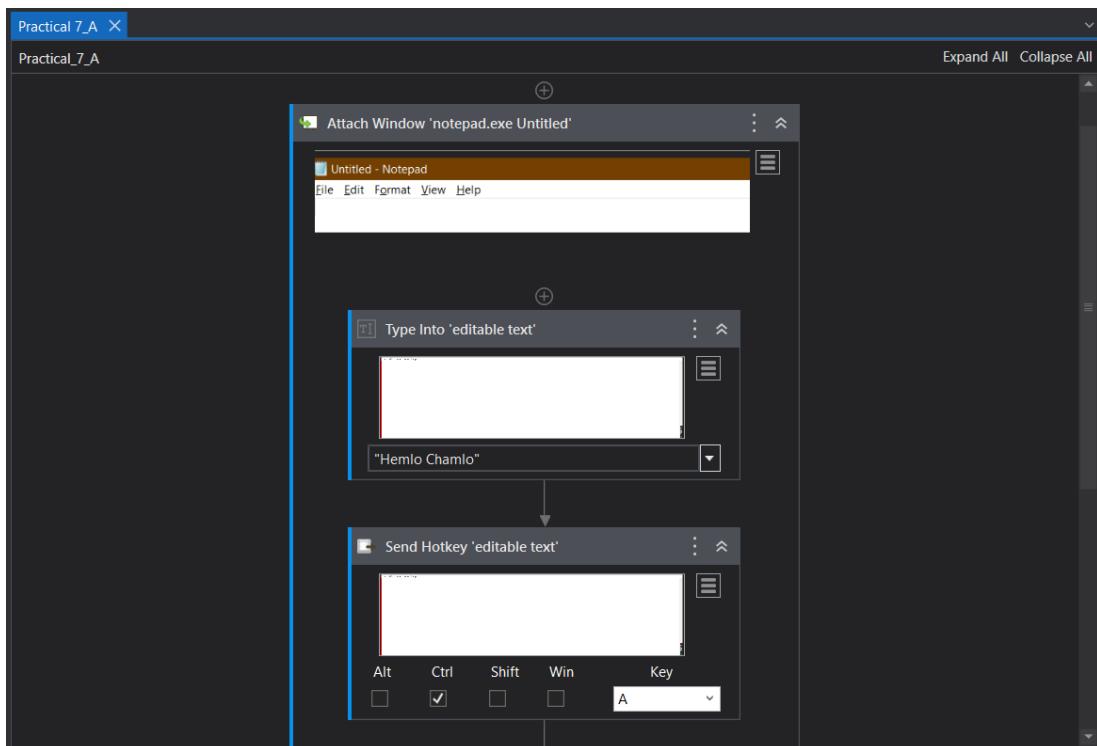
	A	B	C
1	1	Sid	
2	2	Jitu	
3	3	Vish	
4	4	Avi	
5			

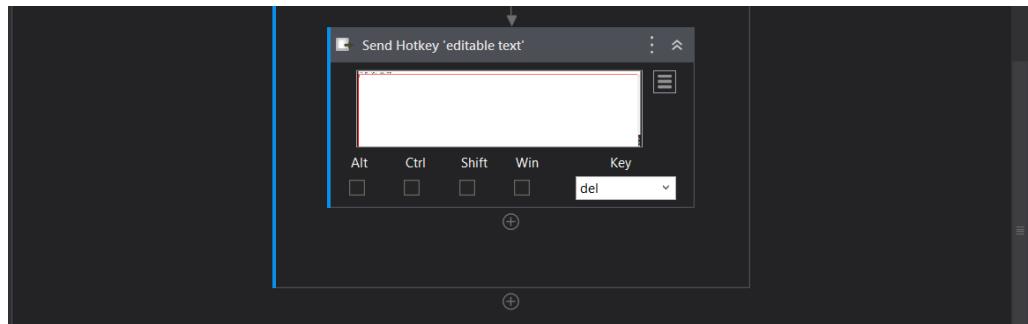
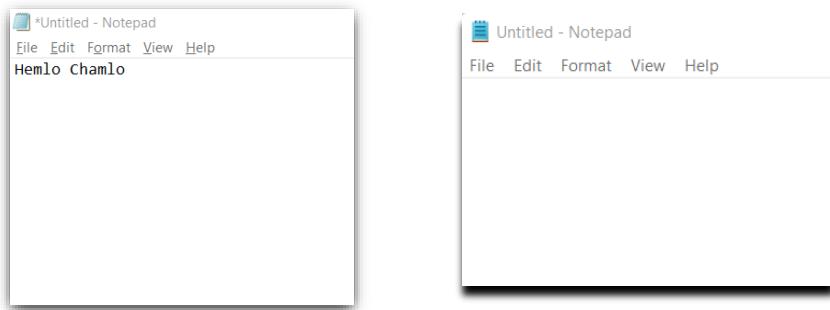
Conclusion : Thus we have studied to Automate the process to extract data from an excel file into a data table and vice versa.

PRACTICAL NO: 7**7A] Implement the attach window activity.****Steps :-**

Here, we are going to attach a Notepad window and then write some text into:

1. Create a blank project and give it a meaningful name. Add a Sequence to it.
2. Open Notepad; Drag and drop attach window activity inside sequence and click on indicate onscreen option of it and indicate the Notepad screen.
3. Then, Drag and drop the Type into activity below Attach window activity. Indicate the screen where you want to type; a type into pop-up will appear, type your text inside it and check the empty field box and Press Enter.
Your Text will get typed into Notepad.
4. Now, Drag and drop the send hotkey activity and give keys as *CTRL* and *A*.
5. Again, Drag and drop the send hotkey activity and give keys as *CTRL* and *DELETE*.
6. Click Run and You will see your activities performing on Notepad window.



**output:**

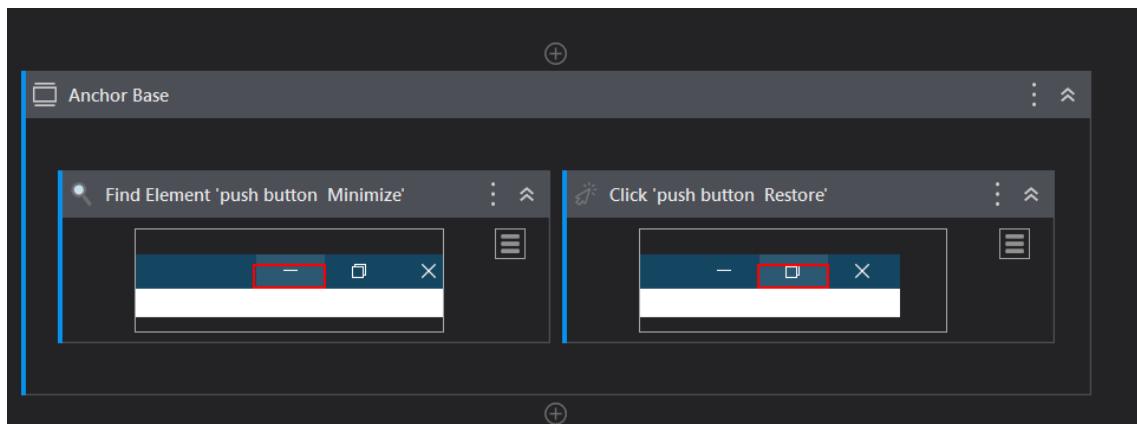
Conclusion : Thus we have studied to Implement the attach window activity.

7B] Find different controls using UiPath.

1. Anchor Base

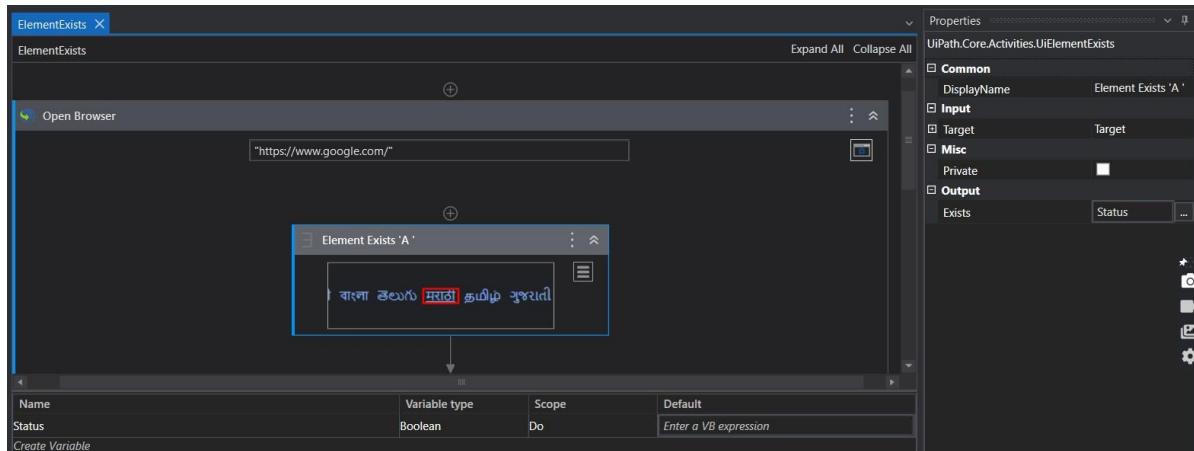
1. Add a sequence to a project.
2. Drag and drop an Anchor base control from the Activities panel inside the sequence.
3. There are two activities that we must supply to the Anchor base control: Anchor and actionactivities.
4. Drag and drop the Anchor base activity (for example; Find Element activity) in the Anchor field and Action activity (for example; Click activity) in the Drop Action Activity Here field of the Anchor base control.

OUTPUT :-



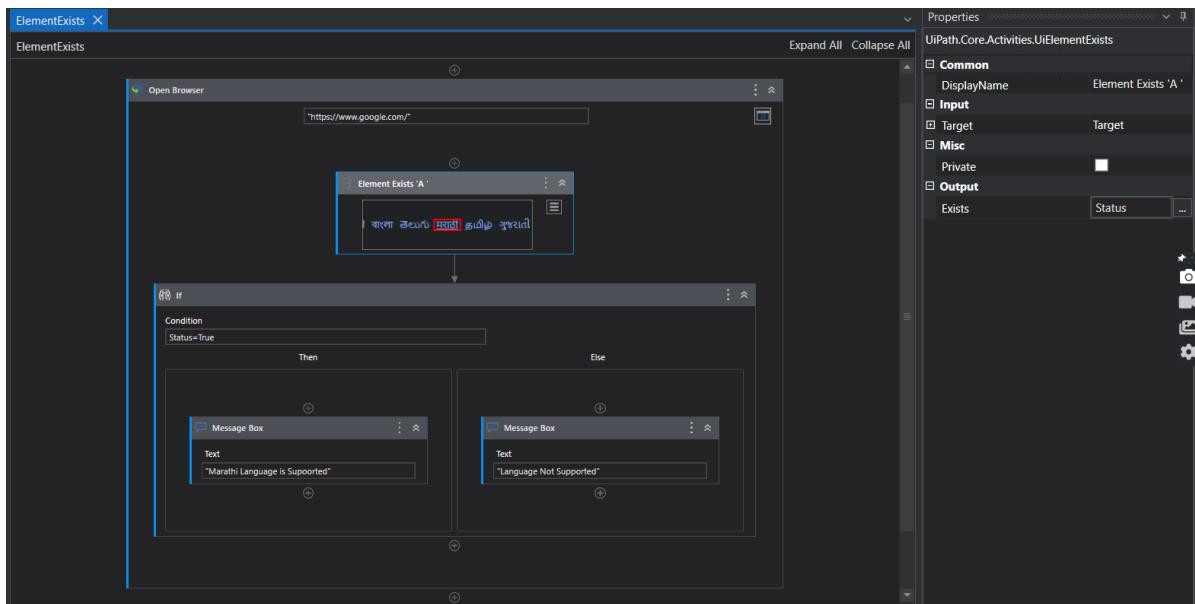
2. Element Exists :-

Here, we are going to check the element of language on the *Google.co.in* website:

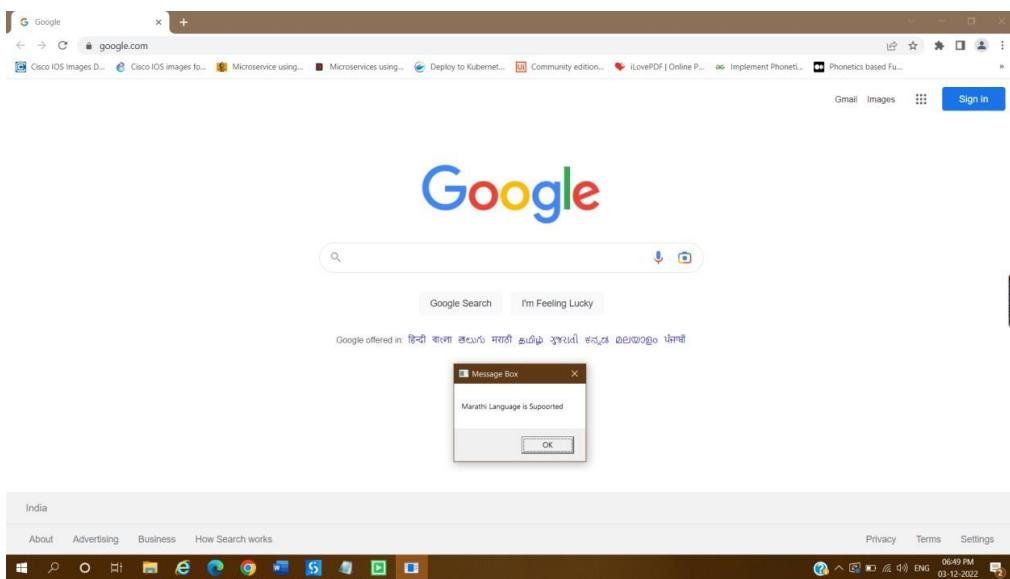


1. Add a sequence to the project and give it a meaningful name.
2. Drag and drop the Open browser activity and specify the web url inside it.
3. Drag and drop the Element Exists activity and Indicate the language element. Create variable for the Element Exists activity (by default makes **Boolean** variable).

4. Drag and drop the If loop activity below Element Exists activity. Give condition to it as ‘VARIABLE = TRUE’ and inside *Then* part of If loop drag and drop Message box activity.
5. If the condition is TRUE i.e. if element gets found then it will print “Language is Supported” and if the condition is FALSE i.e. if element does not found then it will print “Language is not supported”.



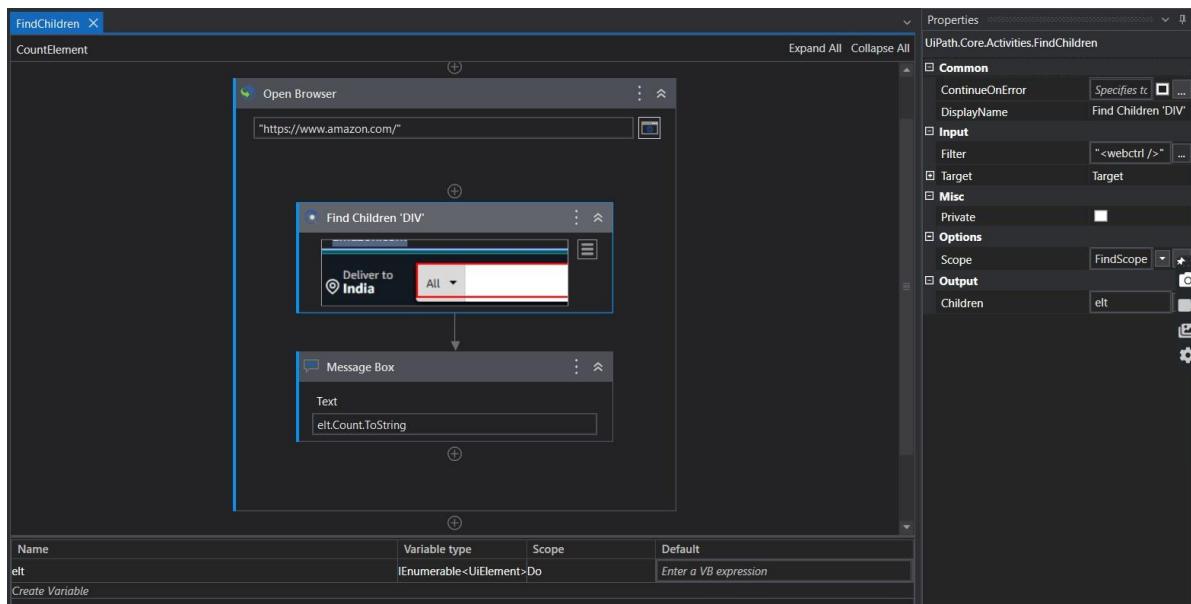
OUTPUT :

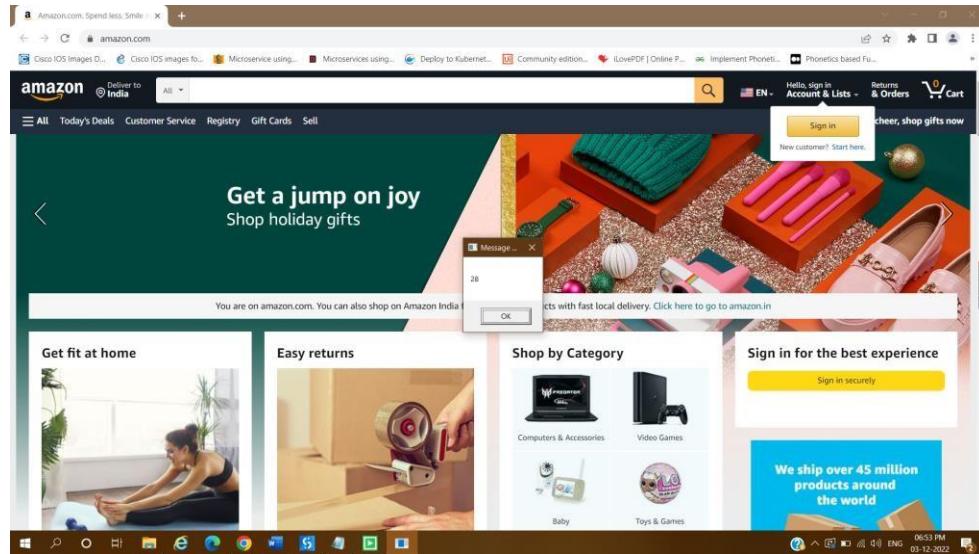


3. Find Children

Here, we used **Amazon.com's** category section to understand the working of the Find children activity.

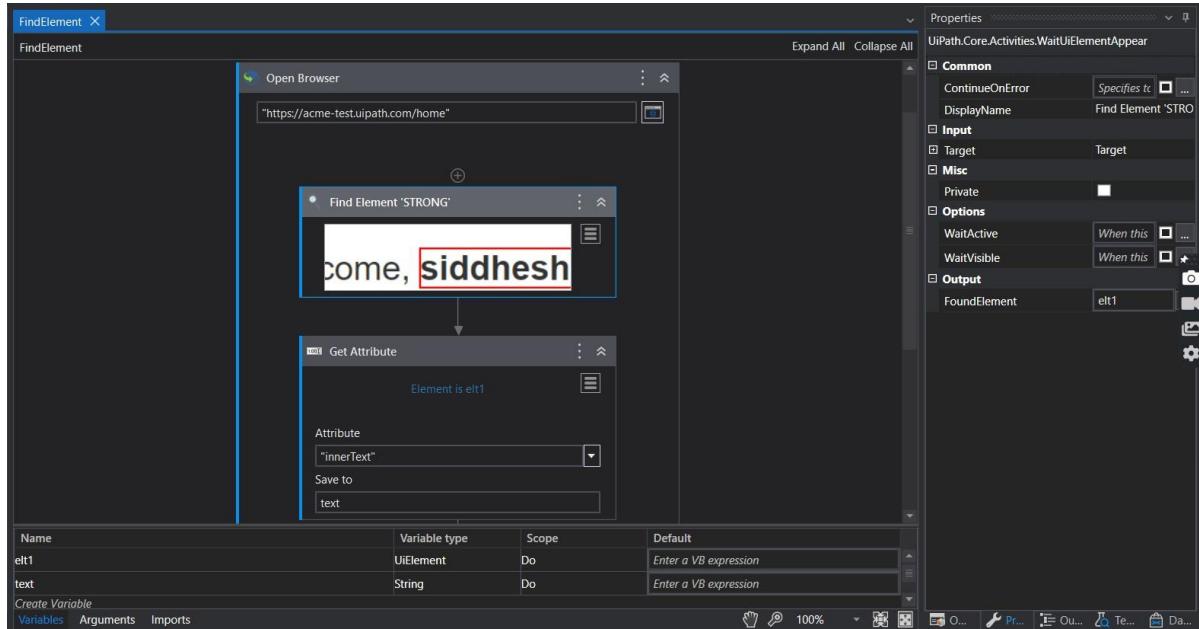
1. Add a sequence and give it a meaningful name.
2. Drag and drop the Open browser activity and specify Amazon's url inside it.
3. Drag and drop the Find children activity. Indicate the element (In this case, category section of Amazon site) and create variable for the Find children activity (**By default it will create variable of type UiElement**).
4. Drag and drop the Message box. Specify the variable we created earlier and we will count it by specifying '**VARIABLE.count**'.
5. Click run or Press **CTRL+F6**.



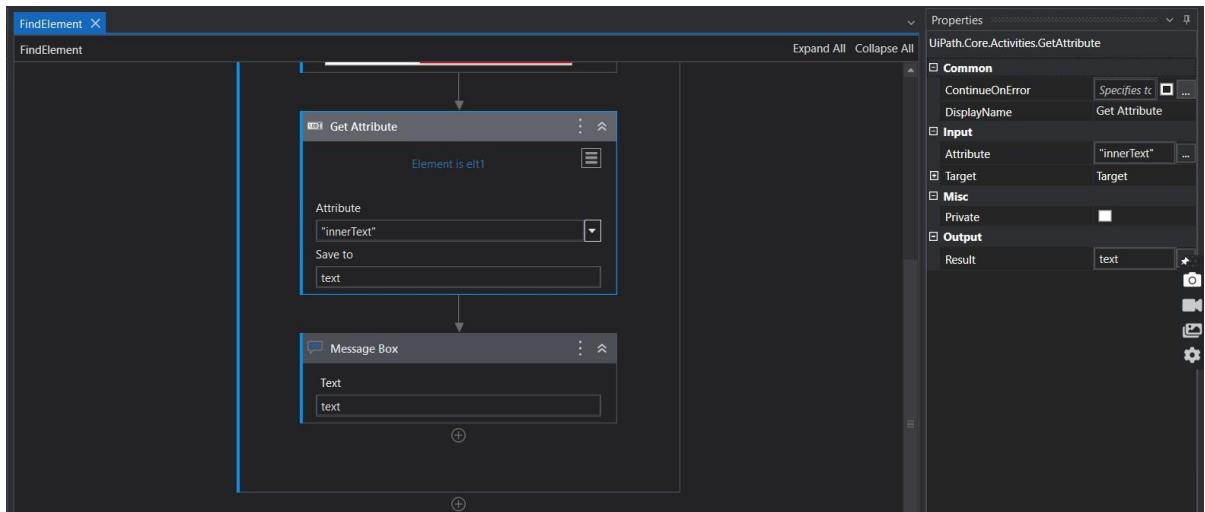
OUTPUT:-**3. Find Element**

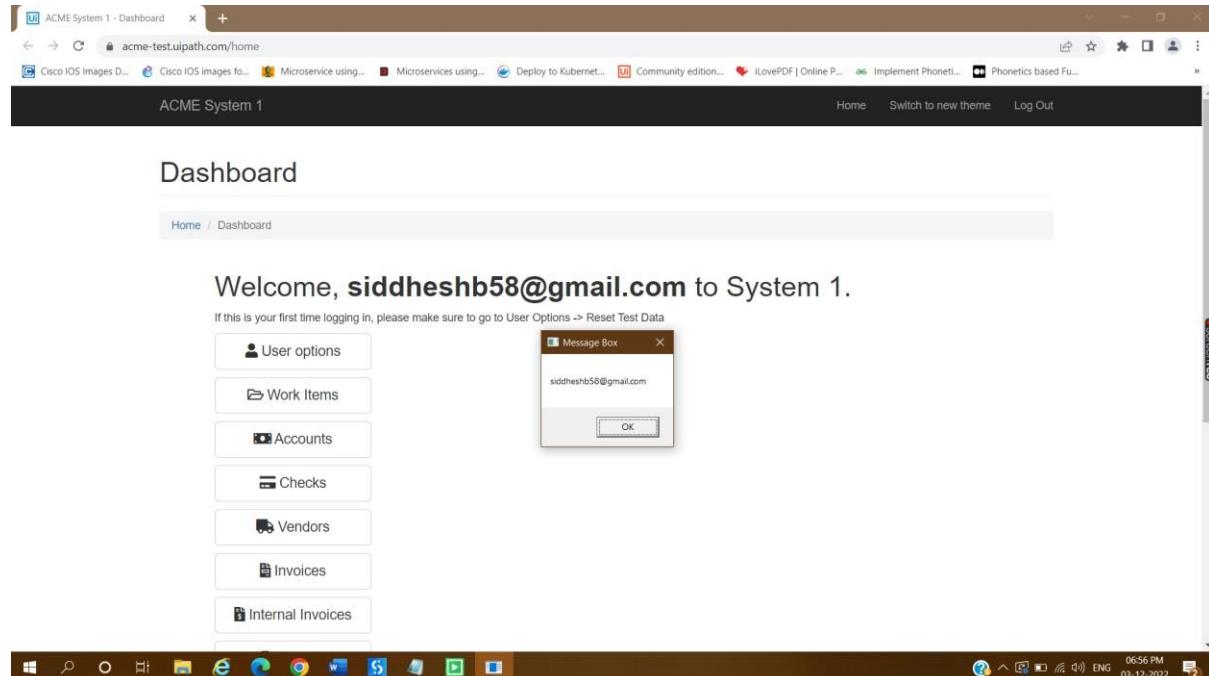
Here, we have used “**acme-test.uipath.com**” website to understand the working of the Find element activity.

1. Drag and drop the Open browser activity inside a sequence.
2. Specify the URL inside the Open browser activity.
3. Drag and drop the Find Element activity inside the open browser activity. Indicate the element which we want to find and create a variable for the Find Element activity (**By default it will create variable of type UiElement**).



4. Drag and drop the Get Attribute activity below the Find element activity which will read the innerText of the element which we indicated. Select the attribute as innerText and save its result into String variable.
5. Next, Drag and drop the Message box and specify the variable in which we have save the innerText of the element.
6. Click RUN

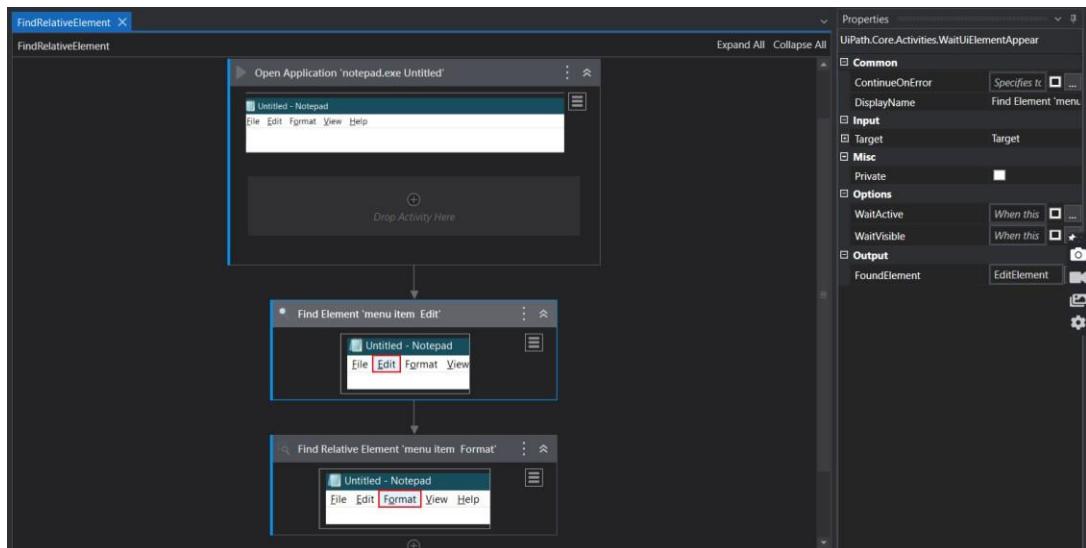


OUTPUT :-**4. Find Relative Element**

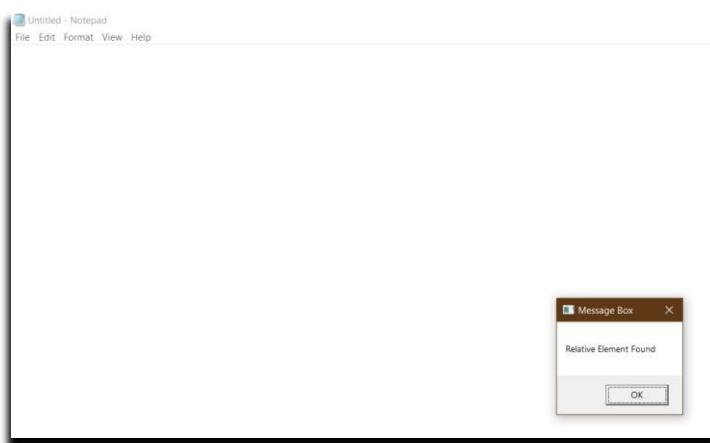
This control is similar to the Find element control. The only difference is that it uses the relative fixedUI element to recognize the UI element properly.

Here, we have used Notepad window to understand the working of the Find Relative element.

1. Drag and drop the Open application activity inside a sequence and indicate the Notepadwindow to it.
2. Drag and drop the Find element activity below the open application activity and indicate the element on which we want to work.
3. Then, Drag and drop the Find Relative element activity and indicate the element which isbeside the element which we indicated in the Find element activity earlier.
4. Drag and drop the Message box and type “Relative Element Found” inside its Text property.
5. Click Run.



OUTPUT :-

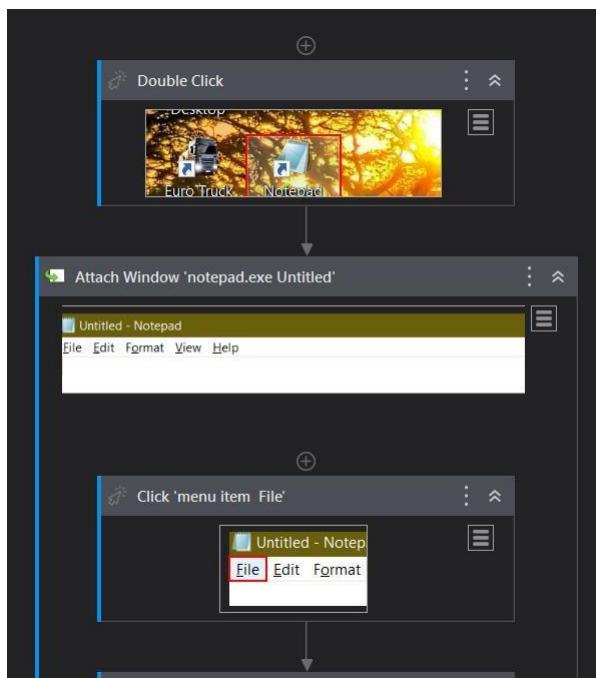


Conclusion : Thus we have studied to Find different controls using UiPath.

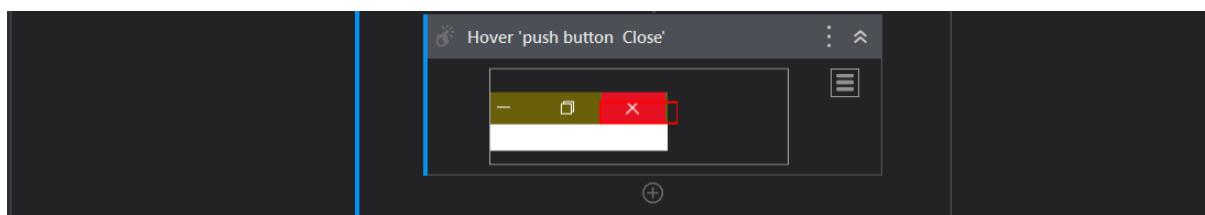
7C] Demonstrate the following activities in UiPath

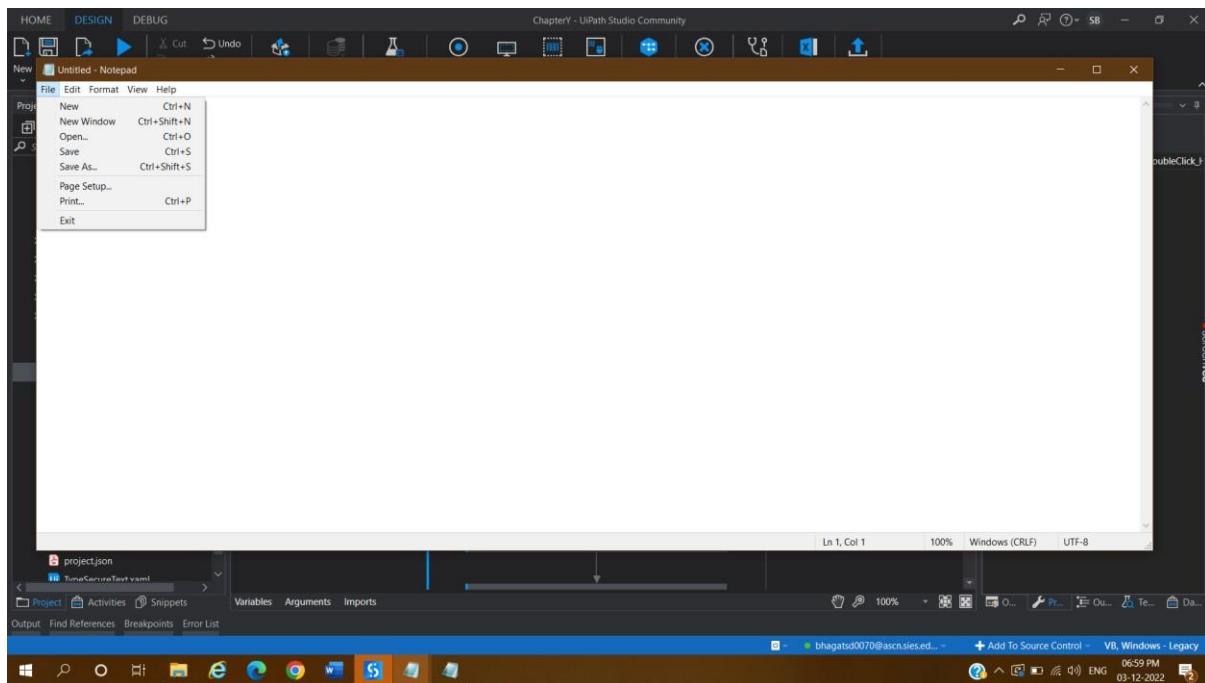
i. Mouse - Click, Double Click & Hover

1. Add a sequence and give it a meaningful name.
2. Drag and drop the Double Click activity and indicate the Notepad application icon on the desktop. This will open the Notepad.
3. Drag and drop the Attach window activity and indicate the Notepad window to it.
4. Inside Attach window, Drag and drop the Click activity and indicate the 'File' button which is located inside Notepad.

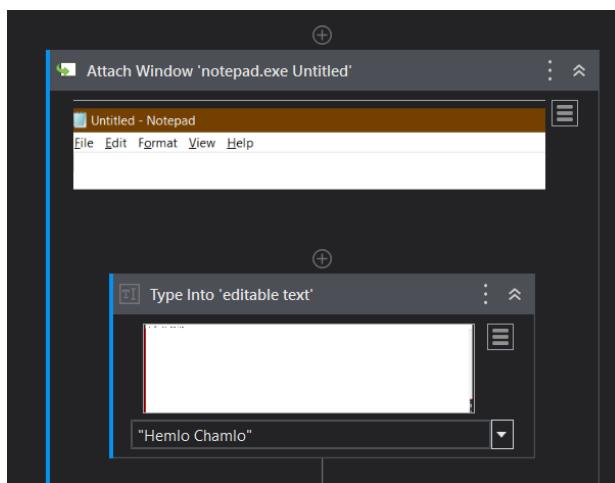


5. Next, we will Drag and drop the Hover activity and indicate the element on which we want to hover our cursor.



OUTPUT:-**ii. Type Into**

1. Drag and drop the Attach window activity inside a sequence. Indicate the window of Notepad to work on it.
2. Drag and drop the Type into activity and indicate the notepad screen.
3. Type your desired text in *DOUBLE QUOTES* inside value property of type into.
4. Click on Run.



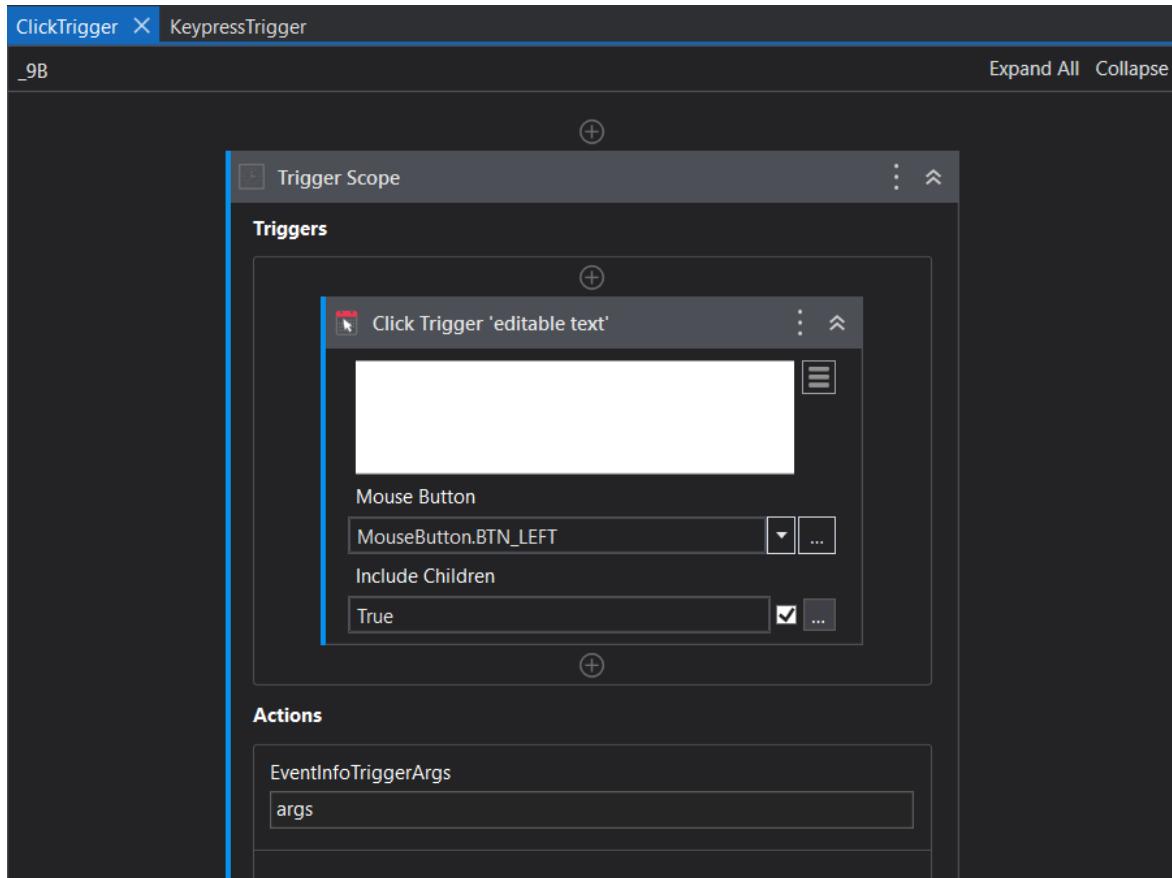
OUTPUT:-



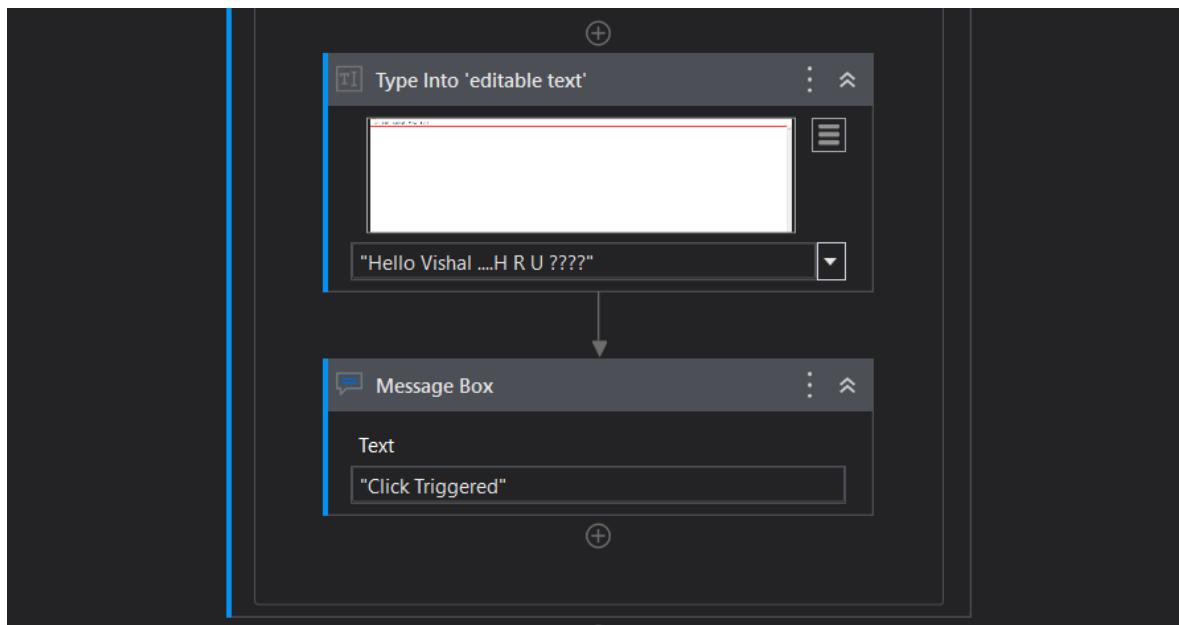
Conclusion : Thus we have studied to Demonstrate the following activities in UiPath.

PRACTICAL NO: 8**8A] Demonstrate the following events in UiPath****i. Element triggering event****Click Trigger :-**

- a. Add a sequence and give it a meaningful name.
- b. Drag and Drop the Trigger scop from the activity panel .
- c. Add the Click Trigger inside the Trigger scope .

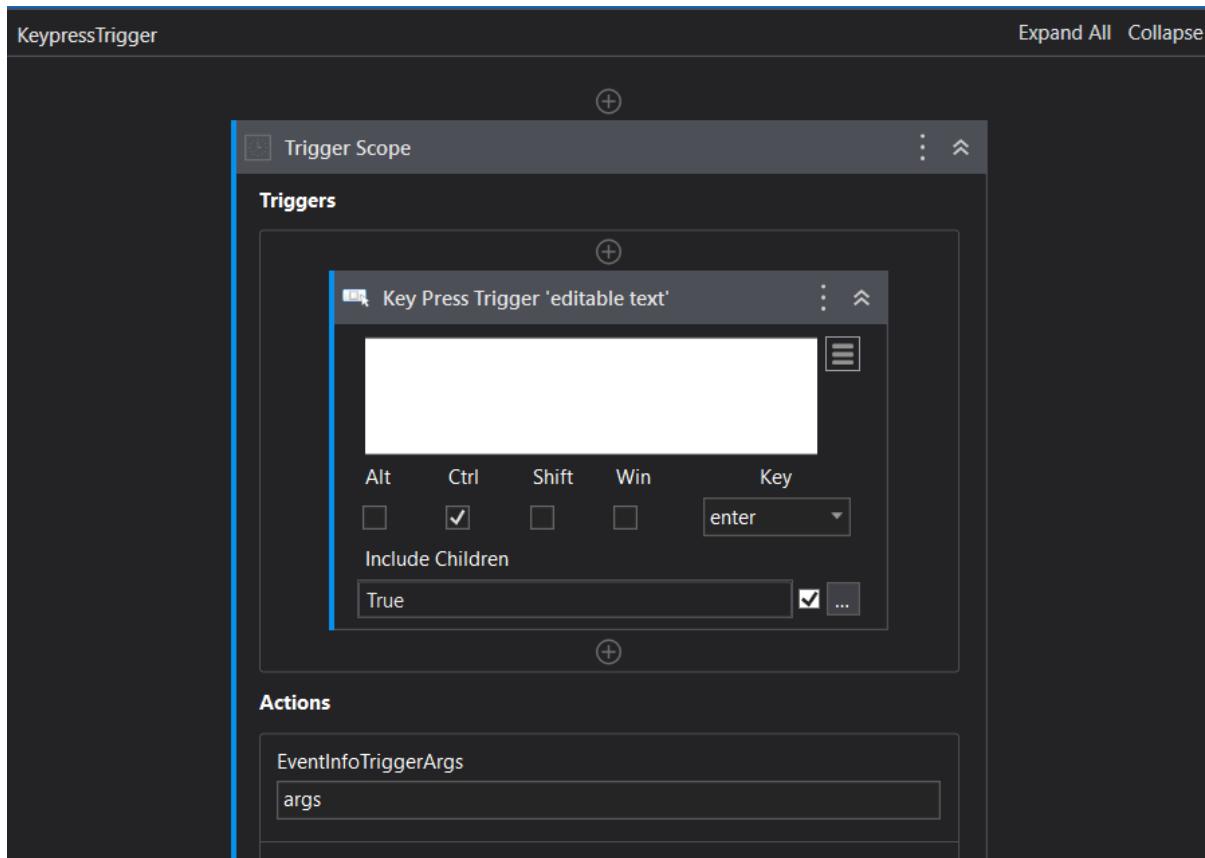


- d. Add the Type Into inside the Action Section and click on the Indicate on Screen option and indicate the notepad file to type the text .
- e. Drag and drop message box below the type into
- f. Now run the project and see the output .

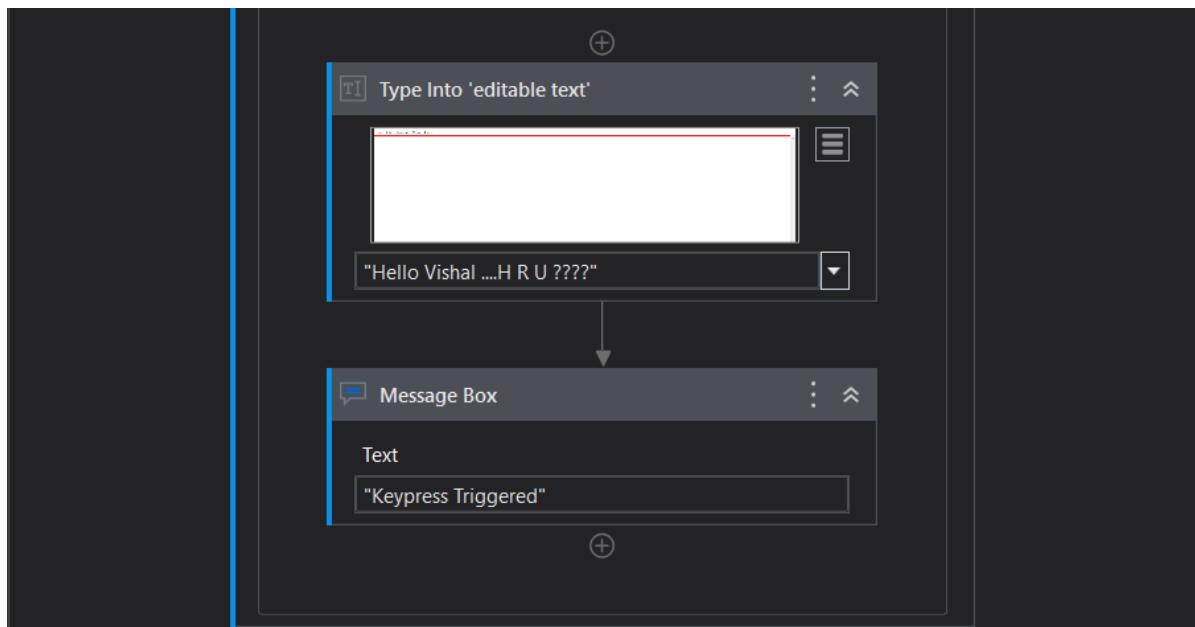


KeyPress Trigger :-

1. Drag and Drop the Trigger scop from the activity panel
2. Add the key press trigger and click on the Indicate on Screen option and indicate the notepadfile to type the text & mark on ctrl and select enter

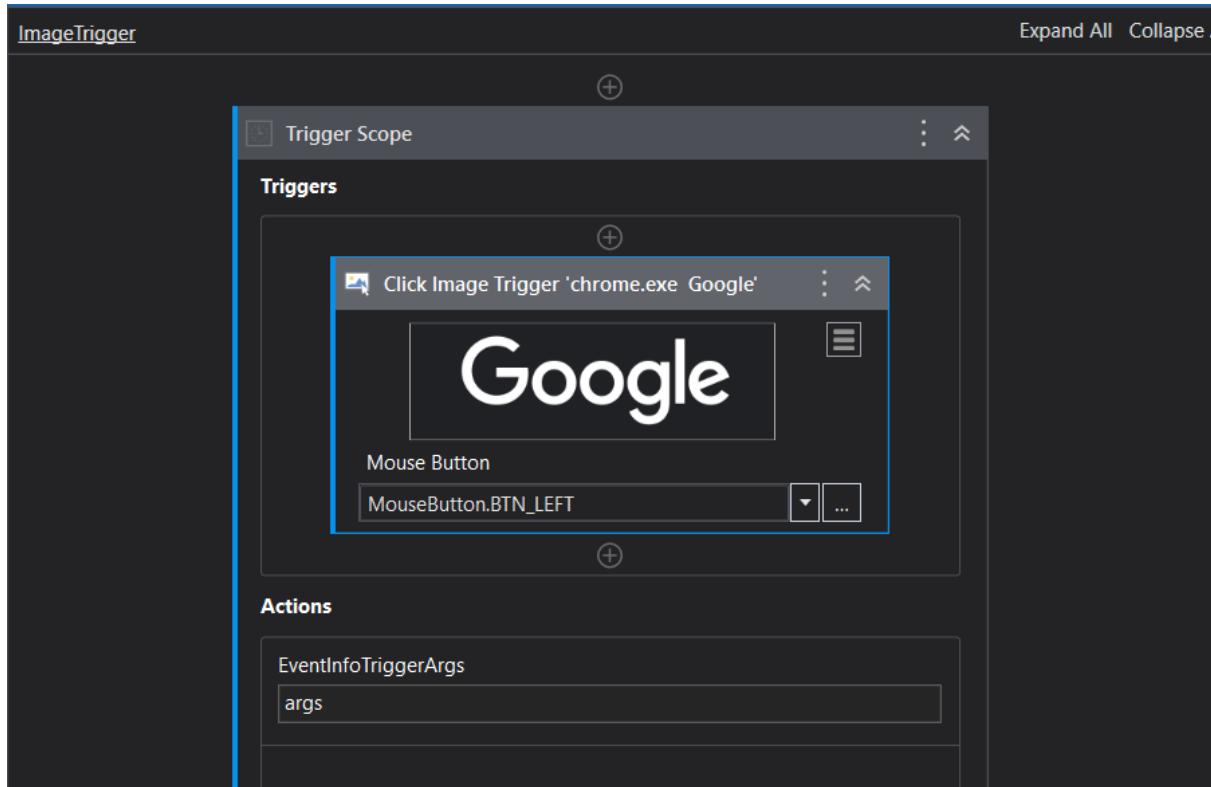


3. Add the Type Into inside the Action Section and click on the Indicate on Screen option and indicate the notepad file to type the text .
4. Drag and drop message box below the type into
5. Now run the project and see the output .

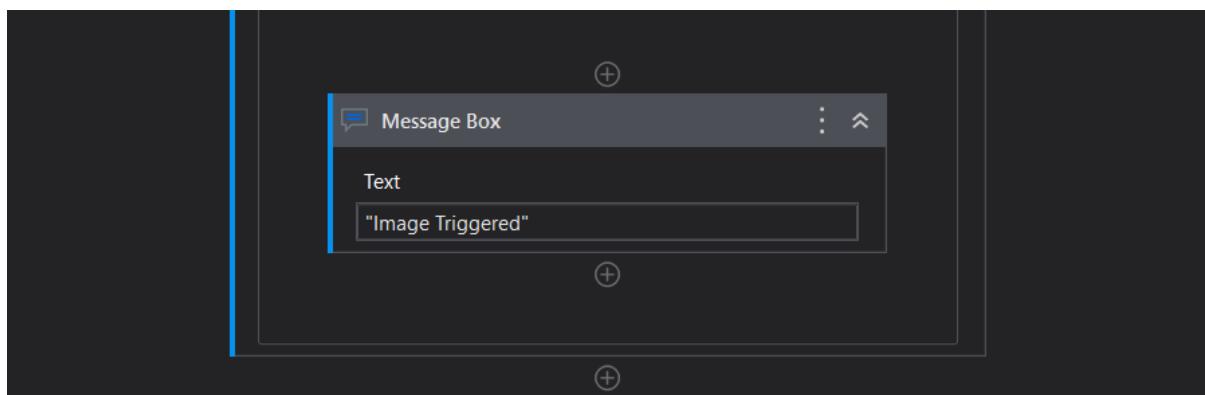


i. Image triggering event

1. Drag and Drop the Trigger scop from the activity panel
2. Add the Click Image trigger and click on the Indicate on Screen option and indicate the www.google.com logo and select the MouseButton.BTN_LEFT from the drop down list



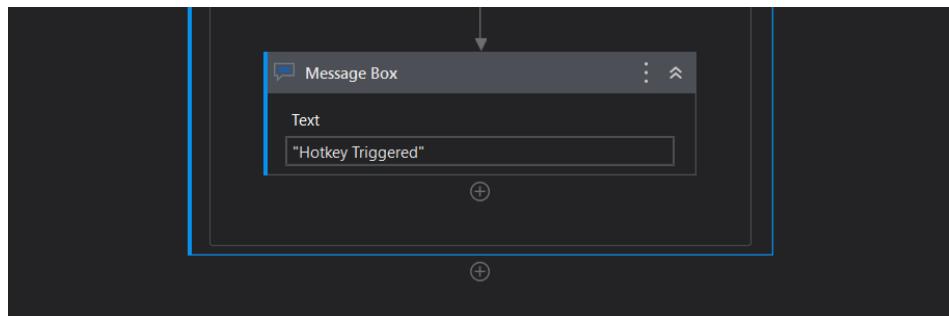
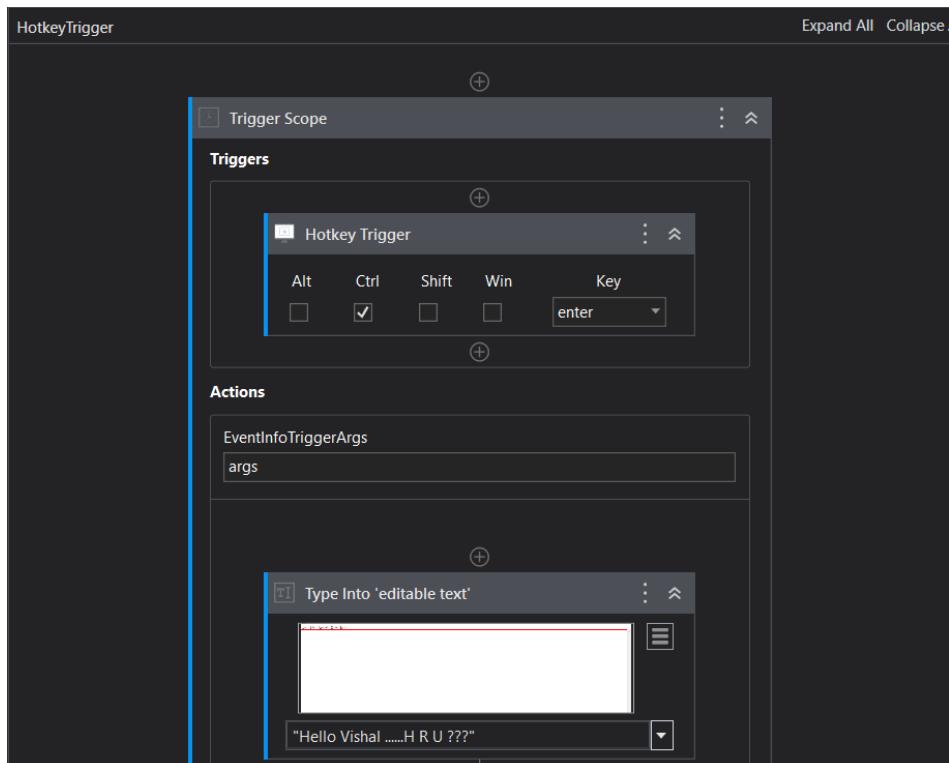
3. Drag and drop message box below the type into.
4. Now run the project and see the output .



ii. System Triggering

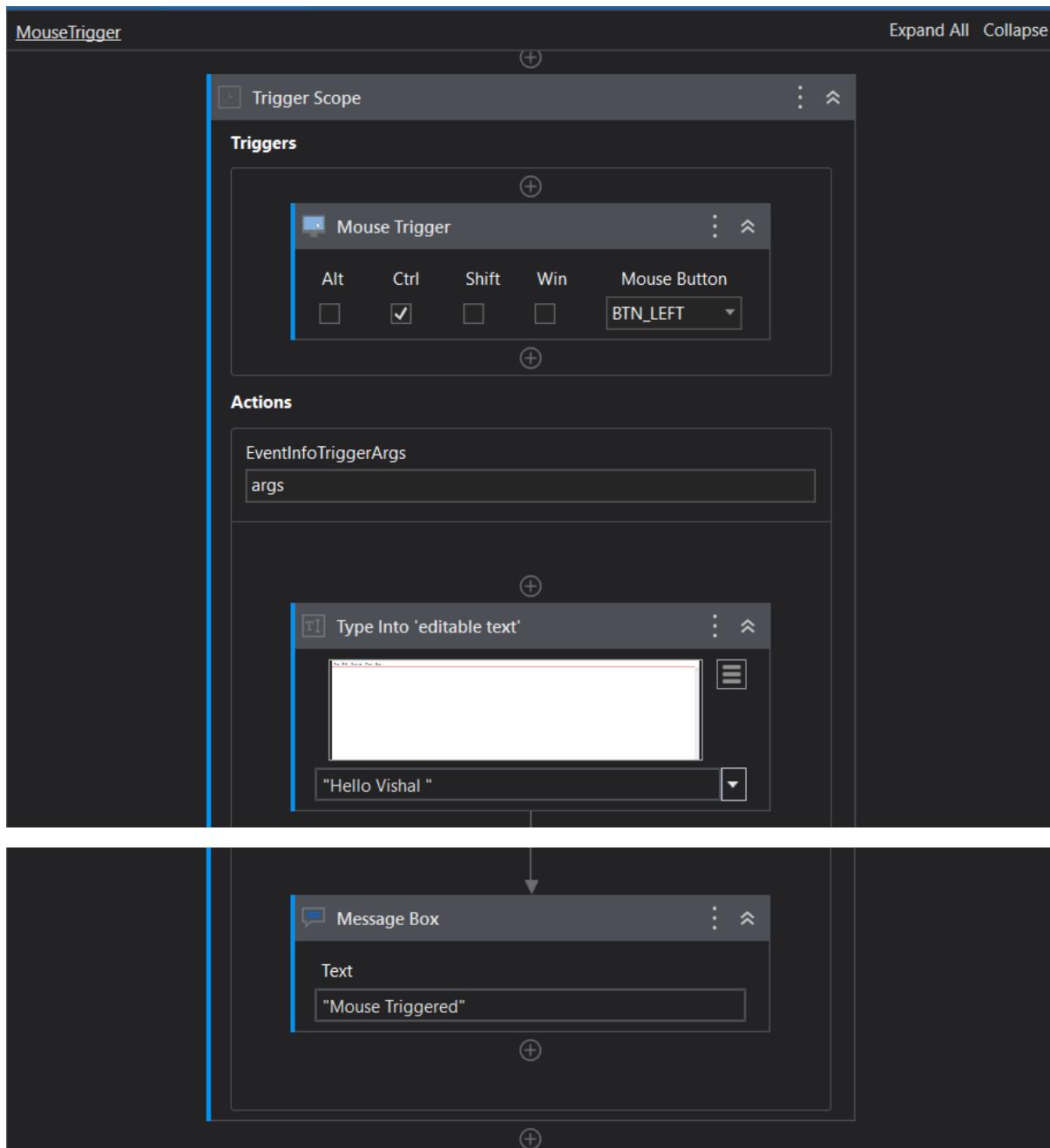
EventHotkey Trigger

1. Drag and Drop the Trigger scop from the activity panel
2. Add the Hotkey Trigger inside the Trigger scope and mark on **ctrl** and select **enter** from the drop down list .
3. Add the Type Into inside the Action Section and click on the Indicate on Screen option and indicate the notepad file to type the text .
4. Drag and drop message box below the type into .
5. Now run the project and see the output .



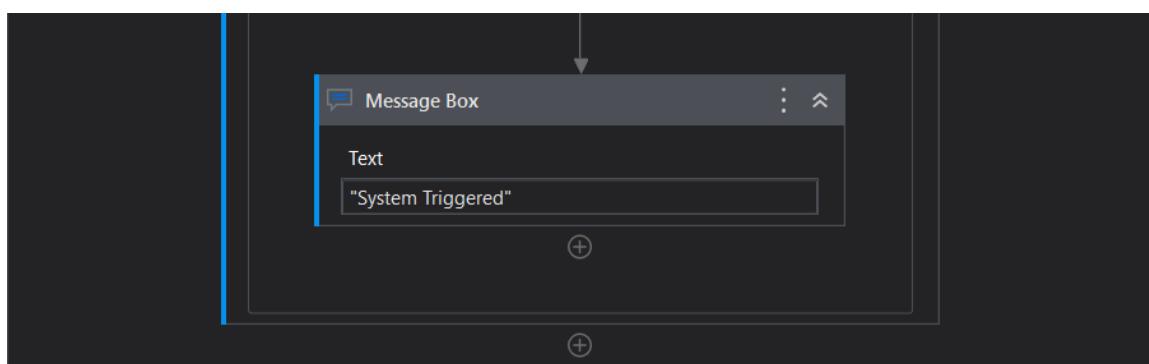
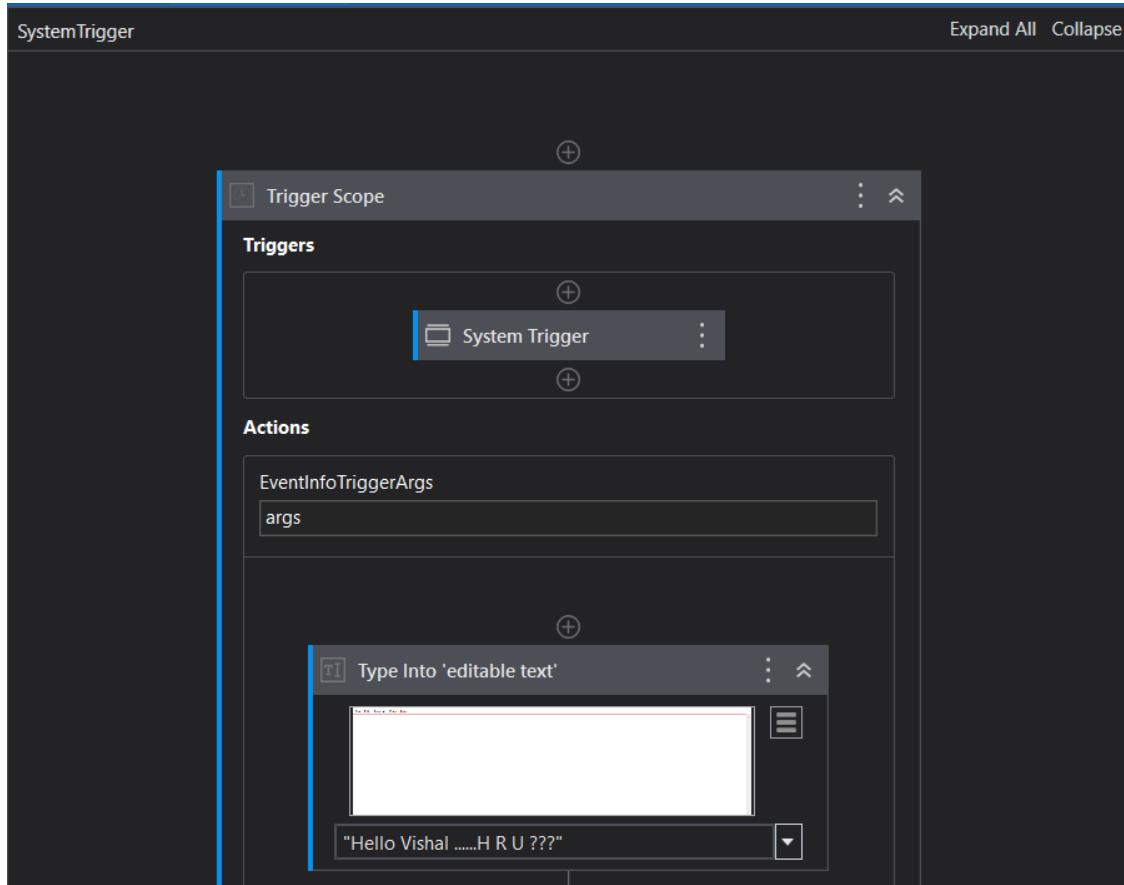
Mouse Trigger :

1. Drag and Drop the Trigger scop from the activity panel .
2. Add the **Mouse Trigger** inside the Trigger scope and mark on **ctrl** and select **BTN_LEFT** from the drop down list .
3. Add the Type Into inside the Action Section and click on the Indicate on Screen option and indicate the notepad file to type the text .
4. Drag and drop message box below the type into
5. Now run the project and see the output .



System Trigger :-

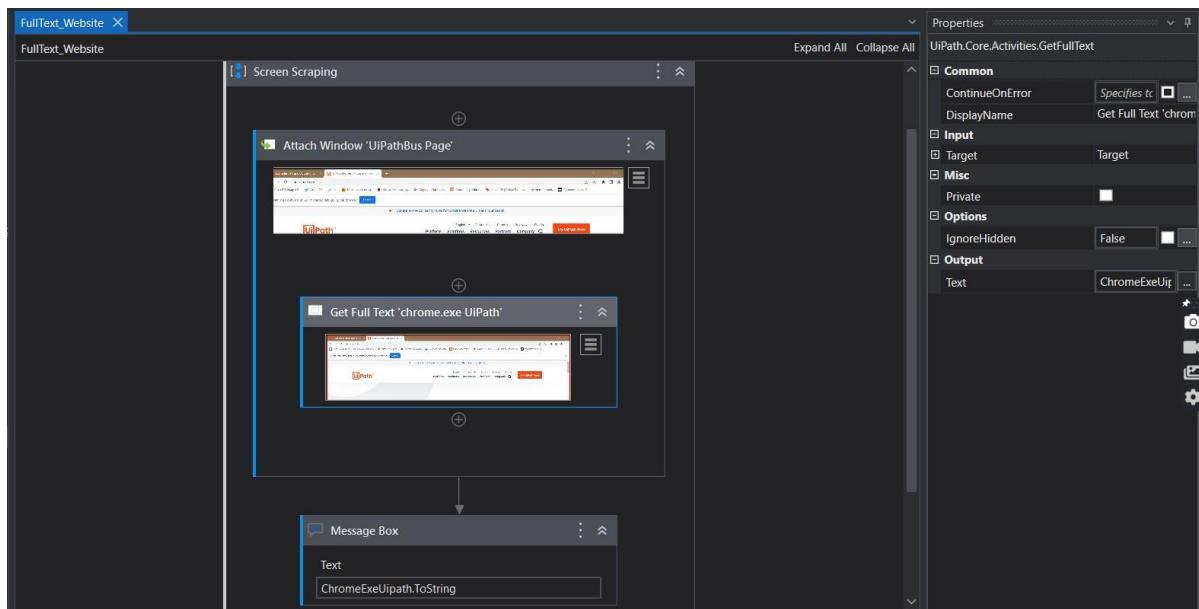
1. Drag and Drop the Trigger scop from the activity panel .
2. Add the **System Trigger** inside the Trigger scope .
3. Add the Type Into inside the Action Section and click on the Indicate on Screen option and indicate the notepad file to type the text .
4. Drag and drop message box below the type into
5. Now run the project and see the output .



Conclusion : Thus we have studied to Demonstrate the following events in UiPath

8B] Automate the following screen scraping methods using.**UiPath1.Full Text**

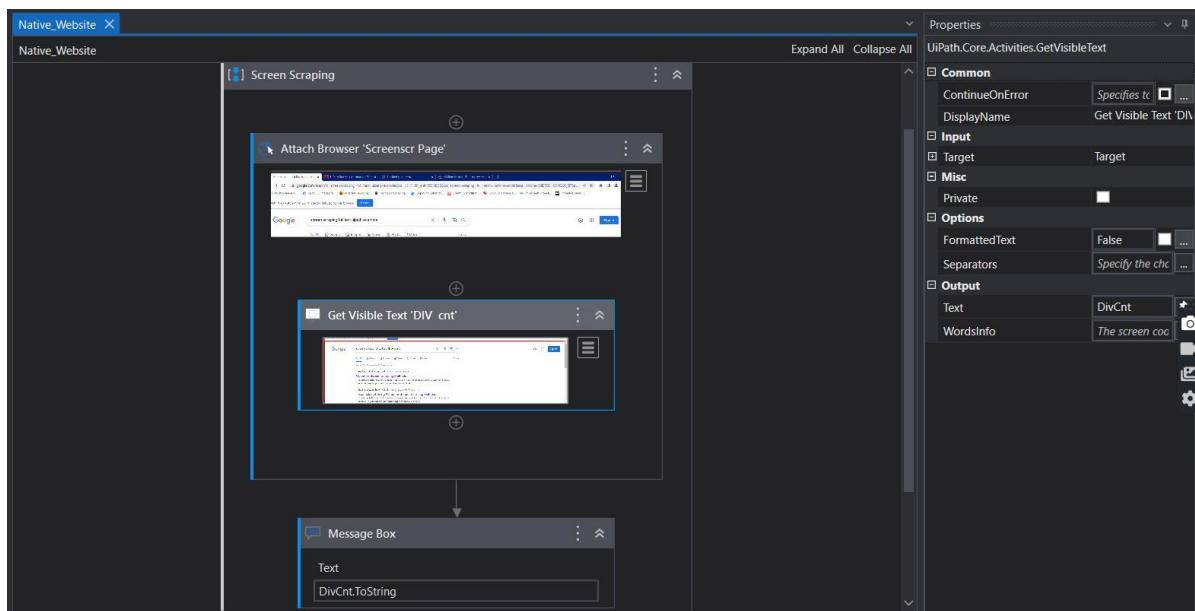
1. Add a sequence and give it a meaningful name.
2. Log on to the UiPath website by logging in to www.uipath.com in your browser.
3. Click on the Screen Scraping icon and locate the area from which you want to extract the information. Just choose an area on the UiPath website. A window will pop-up which would have extracted the text of the region which we specified. Click on Finish.
4. An activity called the Get Full Text would have been generated with the default Stringvariable.
5. Just specify this variable inside the Message box activity.
6. Click on Run. A Message box will appear with the extracted information.



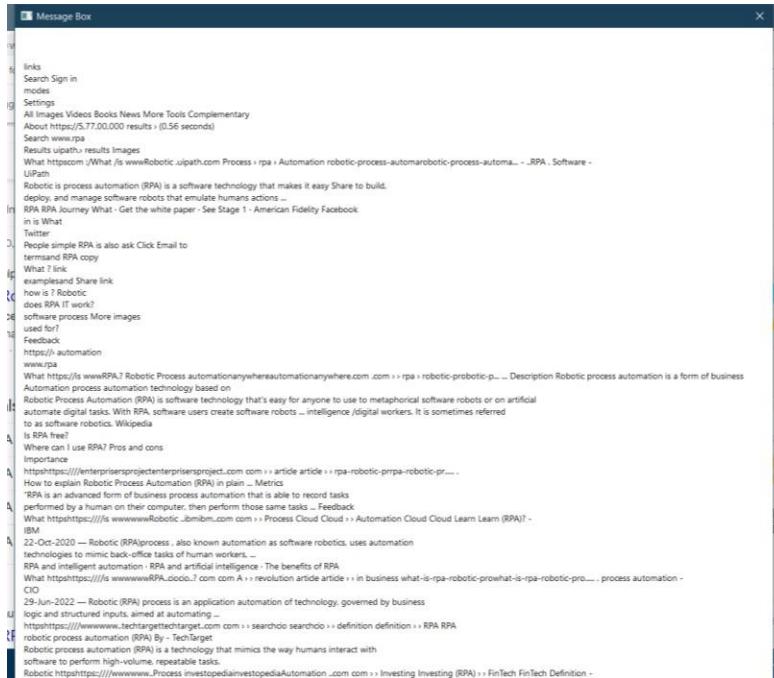
Output:

2. Native

1. Add a sequence and give it a meaningful name.
2. **Go to any random search on Google.com.**
3. Click on the Screen Scraping icon and locate the area from which you want to extract the information. A window will pop-up which would have extracted the text of the region which we specified. Click on Finish.
4. An activity called the Get Visible Text would have been generated with the default Stringvariable.
5. Just specify this variable inside the Message box activity.
6. Click on Run. A Message box will appear with the extracted information.



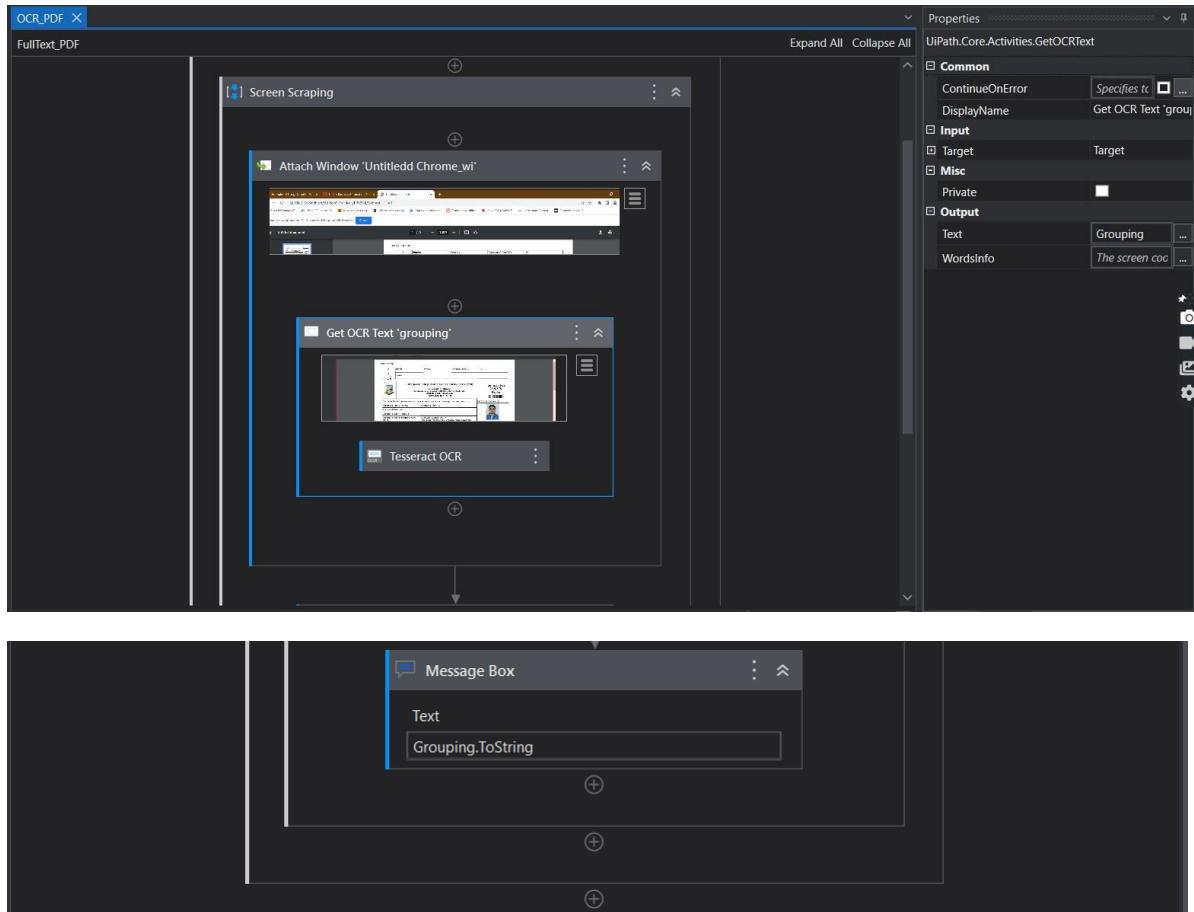
Output:

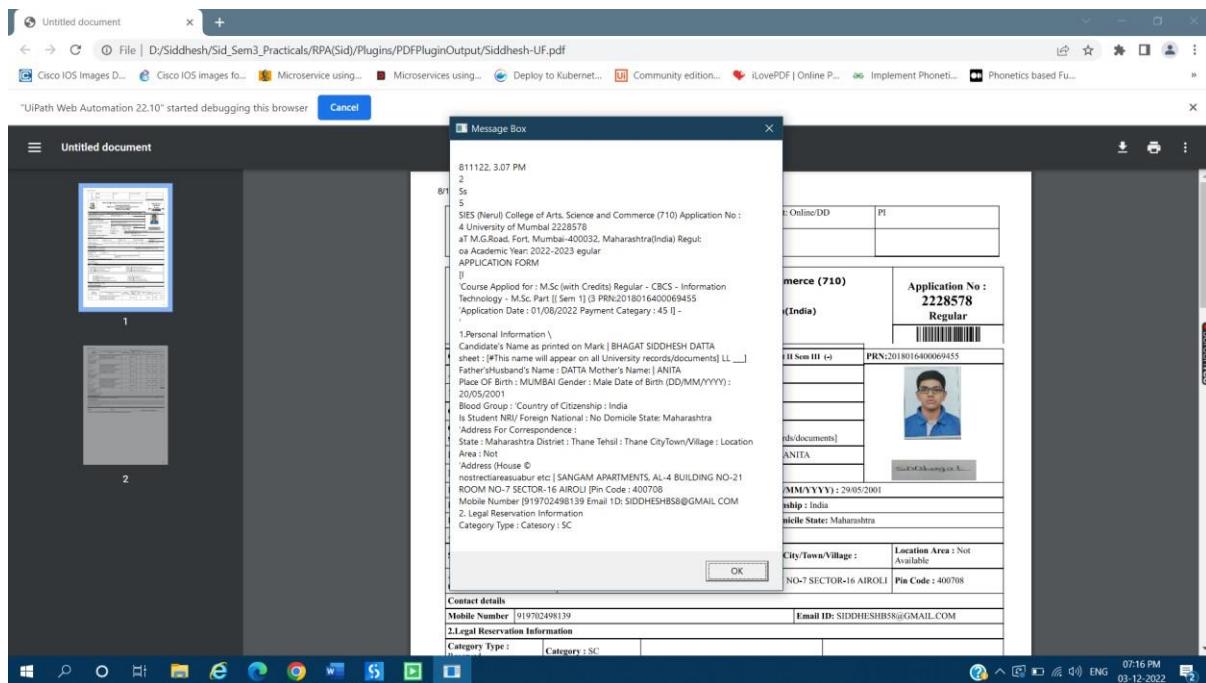


3. OCR on PDF

Here, we are going to perform **OCR** screen scraping on PDF Document.

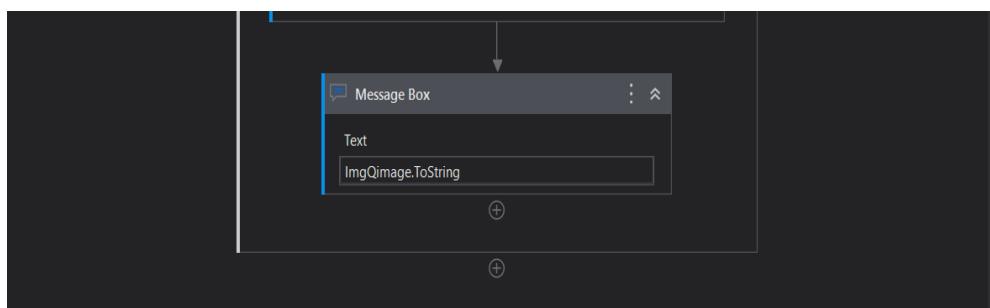
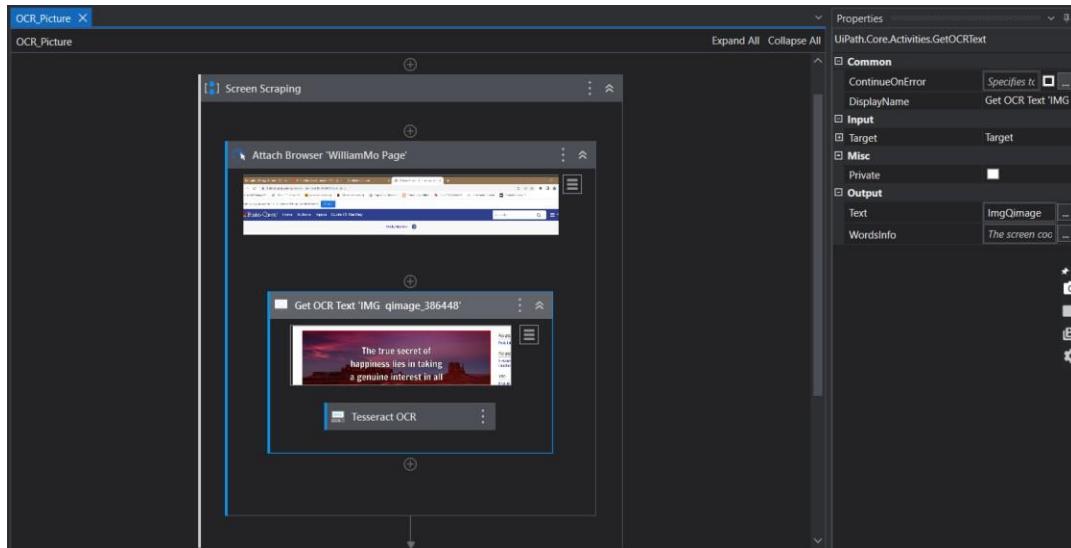
1. Add a sequence and give it a meaningful name.
2. **Open any PDF Document.**
3. Click on the Screen Scraping icon and locate the area from which you want to extract the information. A window will pop-up which would have extracted the text of the region which we specified. Select the desired OCR Engine and Click on Finish.
4. An activity called the Get OCR Text would have been generated with the default Stringvariable and also with the OCR Engine which we have selected during Screen scraping.
5. Just specify this variable inside the Message box activity.
6. Click on Run. A Message box will appear with the extracted information.

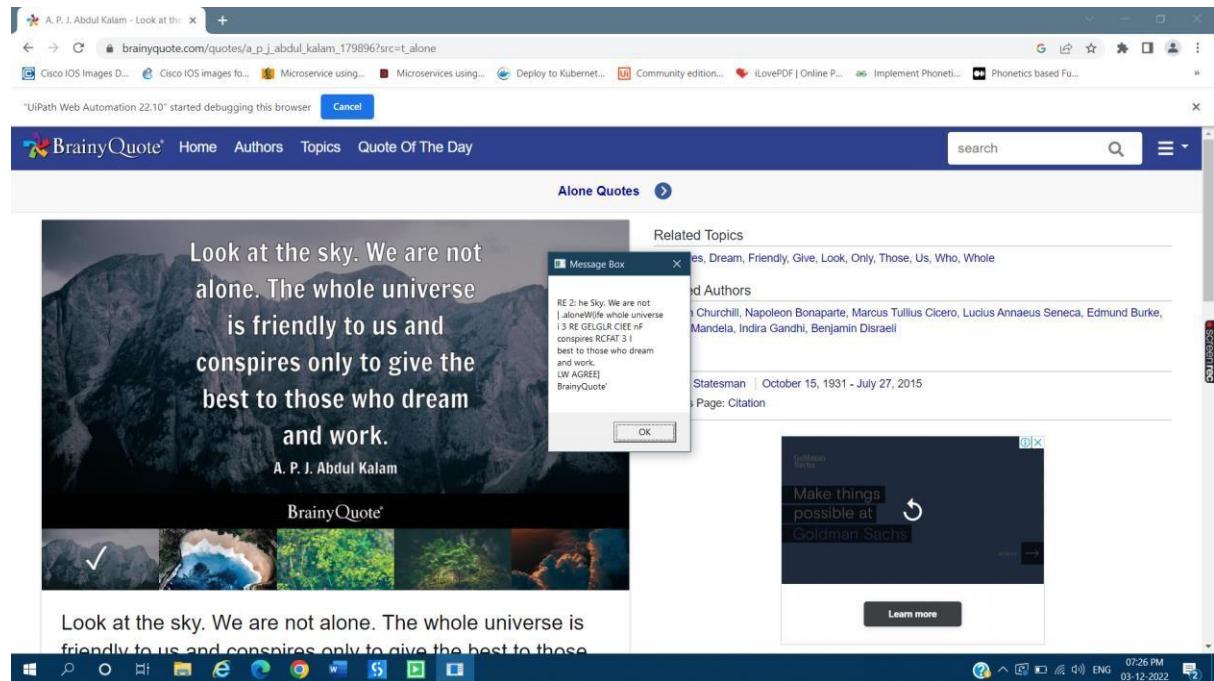


Output:**4.OCR on Picture**

Here, we are going to do OCR Screen scraping on picture to get the information from the picture:

1. Add a sequence and give it a meaningful name.
2. Open any Picture on website or anywhere.
3. Click on the Screen Scraping icon and locate the picture from which you want to extract the information. A window will pop-up which would have extracted the text of the region which we specified. Select the desired OCR Engine and Click on Finish.
4. An activity called the Get OCR Text would have been generated with the default Stringvariable and also with the OCR Engine which we have selected during Screen scraping.
5. Just specify this variable inside the Message box activity.
6. Click on Run. A Message box will appear with the extracted information.



Output:

Conclusion : Thus we have studied to Automate the following screen scraping methods using.

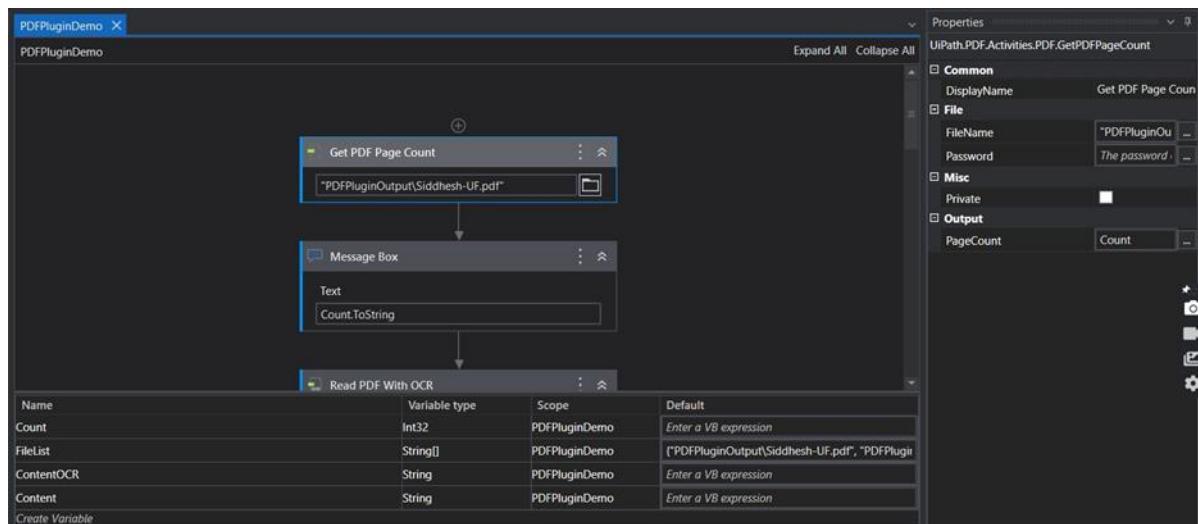
8C] Install and automate any process using UiPath with the following plug-ins

i. PDF Plugin

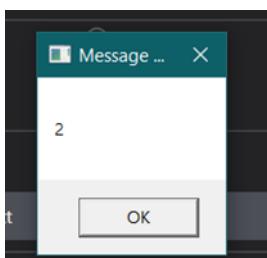
Following are the activities related to PDF Plugin:

I. Get PDF Page Count

1. Drag and drop the Get PDF Page Count activity and specify the file path of the PDF.Create its variable which by default made up of *Integer* type.
2. Specify this variable inside the Message box activity.
3. Click Run and you will get the number of pages of the specified PDF Document.

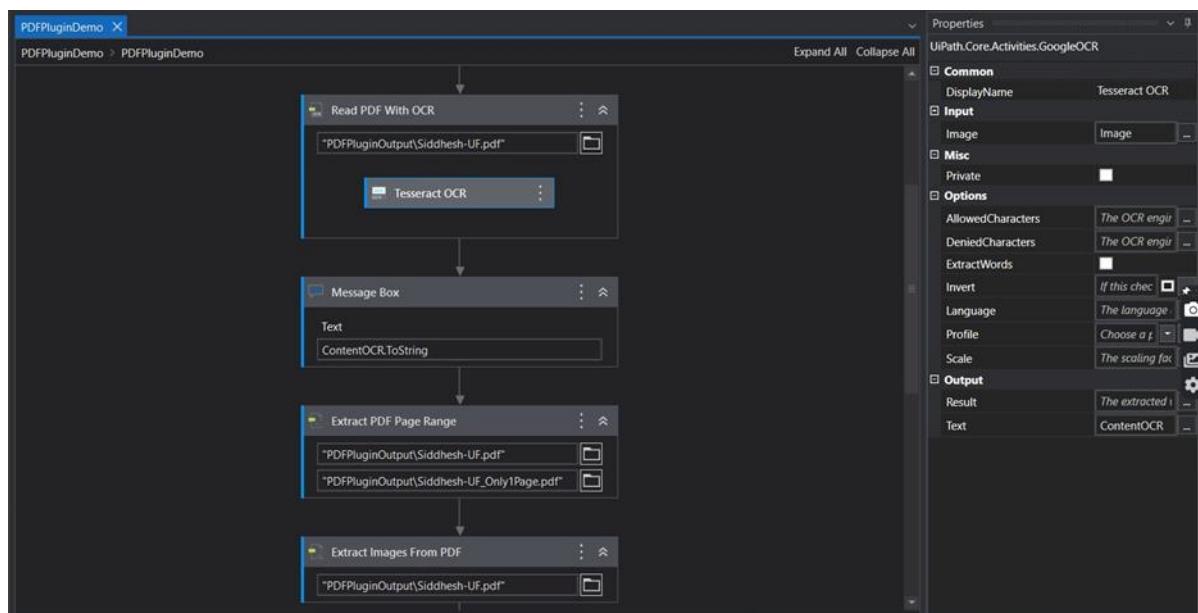


OUTPUT:-



II. Read PDF With OCR

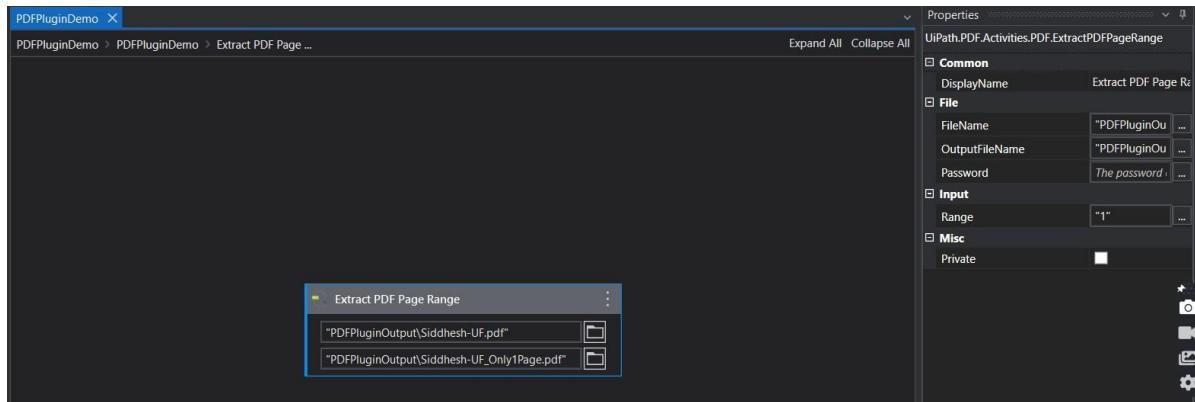
1. Drag and drop the Read PDF With OCR activity and specify the path of the PDF file. Drag and drop the OCR Engine of type **Tesseract OCR** inside the Read PDF With OCR activity.
2. Create the variable for the Tesseract OCR activity for the Text property of it.
3. Specify this variable inside the Message box activity.
4. Click Run and you will get all the data present inside specified PDF File in the Messagebox.



OUTPUT:-

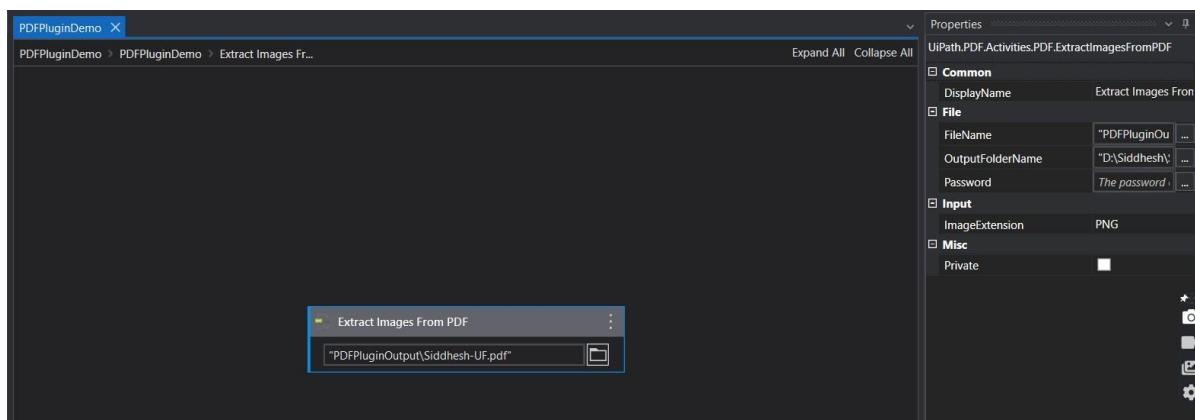
III. Extract PDF Page Range

1. Drag and drop the Extract PDF Page Range activity and specify the file path of PDFDocument inside **FileName** property.
2. Now, we will give the name to our Extracted PDF Page range file with its path inside **OutputFileName** property. We will also specify the Range of pages we want in the Range property.
3. Click Run and you will find your specified range of pages PDF in specified Path.



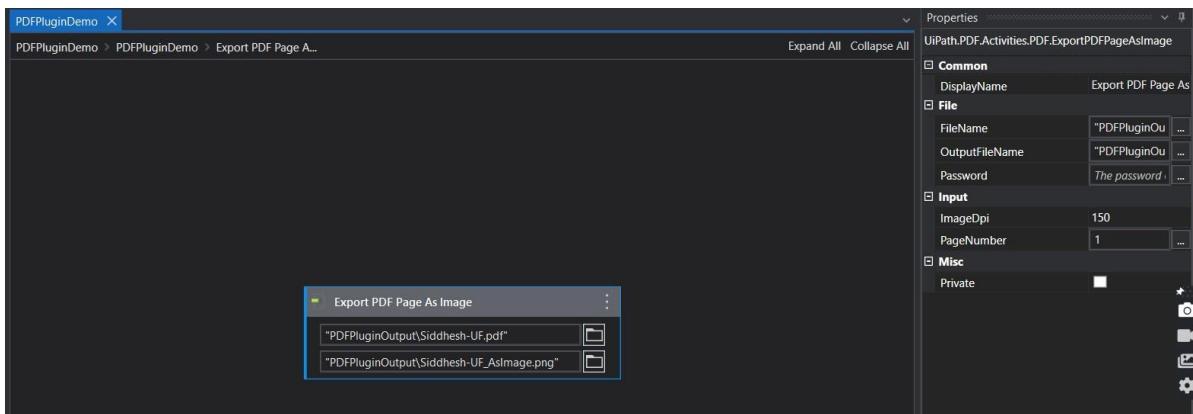
IV. Extract Images From PDF

1. Drag and drop the Extract Images from PDF activity and specify path of the PDF File inside **FileName** property.
2. Next, specify path for the **OutputFolderName** inside property panel. In this path you extracted images from PDF will get generated.
3. Click Run and you will find extracted images from PDF inside your specified path.



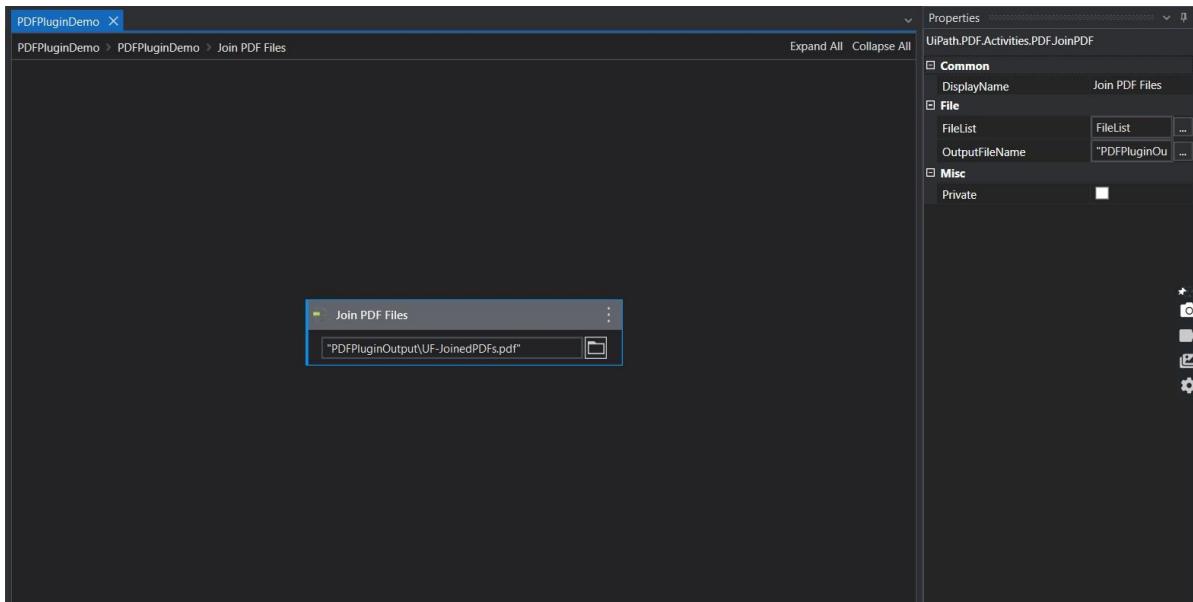
V. Export PDF Page As Image

1. Drag and drop the Export PDF Page As Image activity and specify path of the file inside **FileName** property.
2. Specify path and name of the image inside **OutputFileName** property.
3. Specify the number of page which we want as Image inside **PageNumber** property.
4. Click Run and you will find image of PDF page you specified earlier.



VI. Join PDF Files

1. Drag and drop the Join PDF Files activity inside a sequence.
2. Create a variable of type **String [] Array** which will contain paths of two or more pdffiles with their filenames and specify this variable inside **FileList** property.
3. Specify path and name for the Joined PDF File inside **OutputFileName** property.
4. Click Run and you will find the Joined PDF File inside specified path earlier.



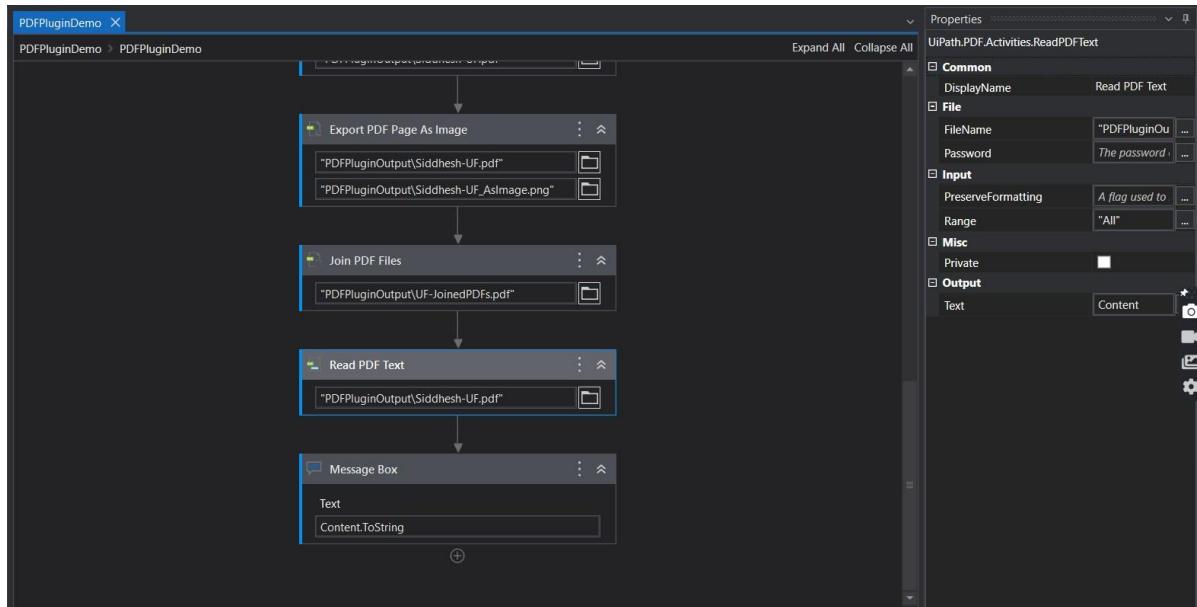
OUTPUT:-

This PC > PERSONAL (D:) > Siddhesh > Sid_Sem3_Practicals > RPA(Sid) > Plugins > PDFPluginOutput				
File	Name	Date modified	Type	Size
	OutputImg	24-11-2022 09:00 PM	File folder	
7	PDF Avinash-UF	01-08-2022 03:05 PM	Microsoft Edge PD...	640 KB
	PDF Siddhesh-UF	22-11-2022 10:01 PM	Microsoft Edge PD...	725 KB
	Image Siddhesh-UF_AslImage	24-11-2022 09:04 PM	PNG File	243 KB
	PDF Siddhesh-UF_Only1Page	24-11-2022 09:00 PM	Microsoft Edge PD...	440 KB
	PDF UF-JoinedPDFs	24-11-2022 09:12 PM	Microsoft Edge PD...	1,364 KB



VII. Read PDF Text

1. Drag and drop the Read PDF Text activity and specify the path of the PDF file.
2. Create the variable for the Text property of it.
3. Specify this variable inside the Message box activity.
4. Click Run and you will get all the data present inside specified PDF File in the Message box.



Output:

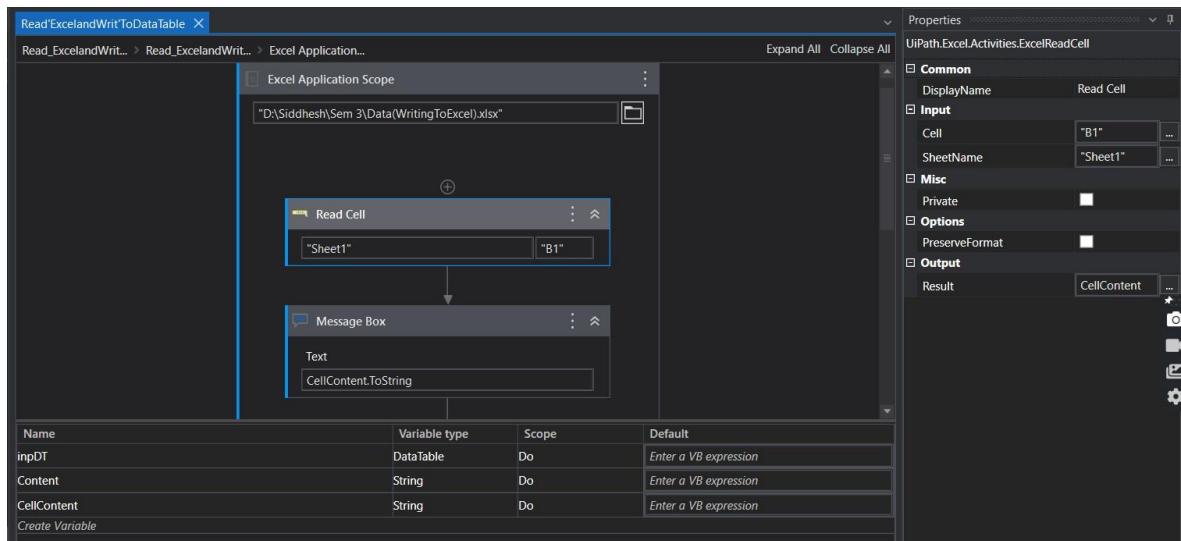
ii. Excel Plugin

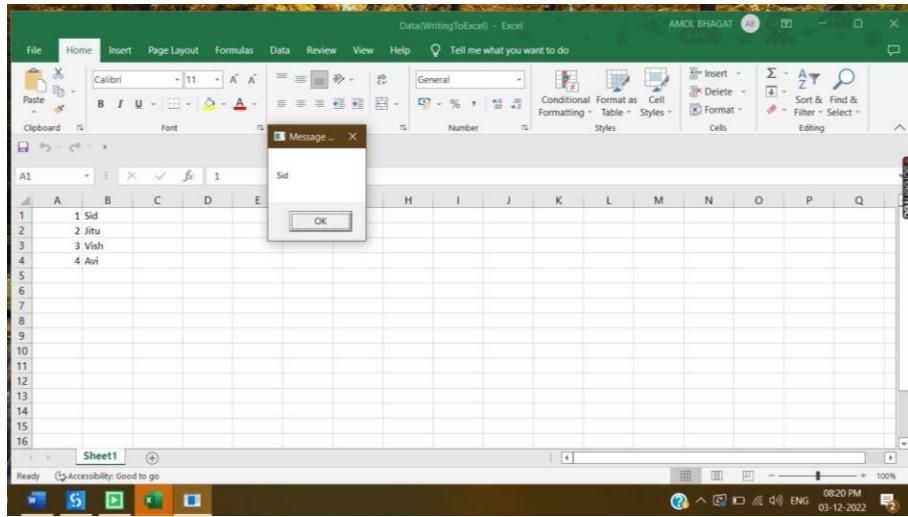
Note: While we are working with Excel Plugin related activities, we must specify all its activities inside **Excel Application Scope** with path of the Excel Document on which we want to perform automation or else they will give error.

Following are the activities related to Excel Plugin:

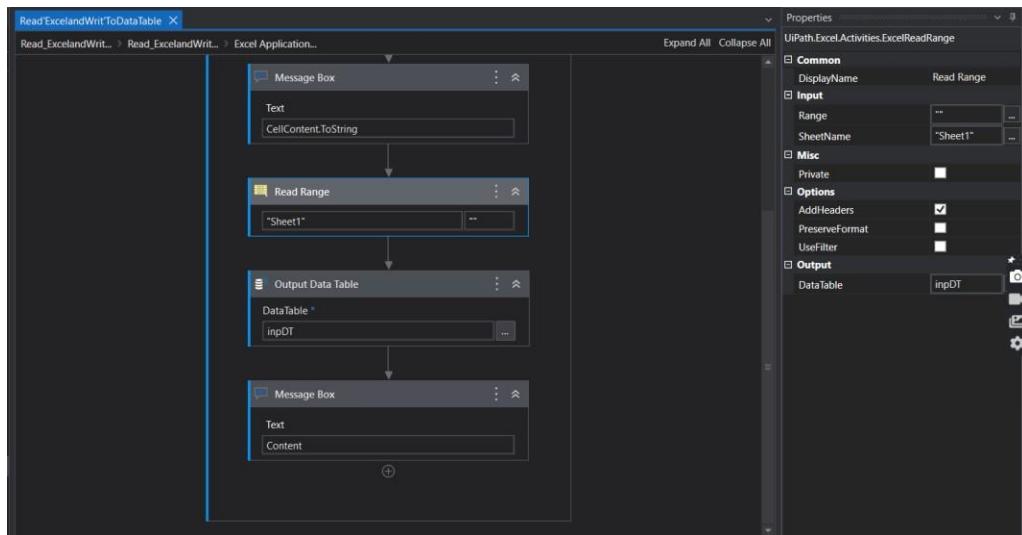
I. Read Cell

1. Drag and drop the Read cell activity and specify the SheetName and Cell value inside property panel. Create its variable which will be By default of type String.
2. Specify this variable inside the Message box activity.
3. Click Run and you will get the value of specified cell inside the Message box.

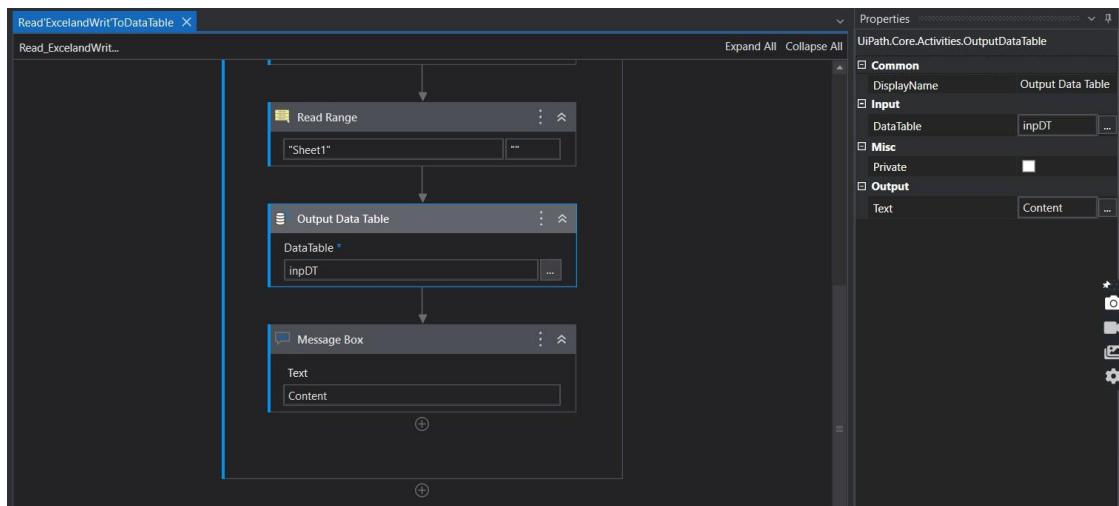


OUTPUT:-**II. Read Range**

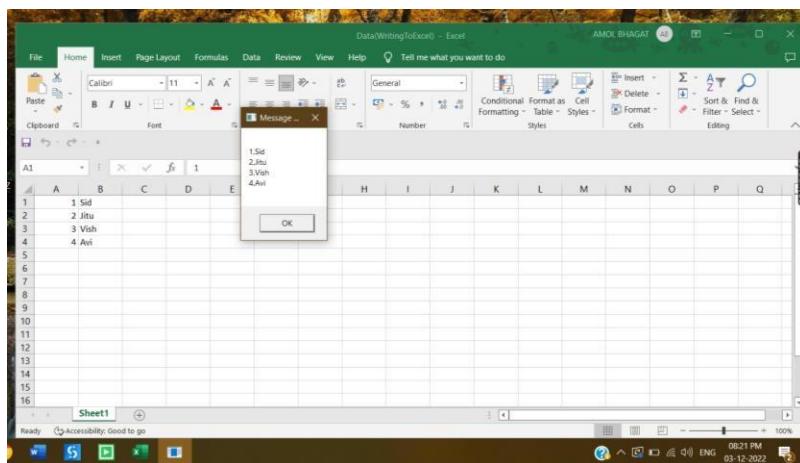
1. Drag and drop the Read Range activity. Specify the SheetName and Range inside property panel. To read all the data we will keep the Range properties value empty with the **Double Quotes**. Create the variable for it which will be by default of type **DataTable**.



2. Now, Drag and drop the **Output Data Table** activity. Specify the variable of Read Range activity inside **Input** property of Output Data Table. Now, Create the variable for Text property inside Output to convert the DataTable data into string.
3. Specify the Output variable inside the Message box activity.
4. Click Run and you will see data of specified excel file gets read and appears on the Message Box.



OUTPUT:-



III. Write Cell

1. Drag and drop the Write Cell activity. Specify the SheetName, Call Value i.e. on which cell you want to write and Value i.e. the desirable String inside property panel.
2. Click Run and you will see data gets written on specified excel document and on specified cell.

OUTPUT:-

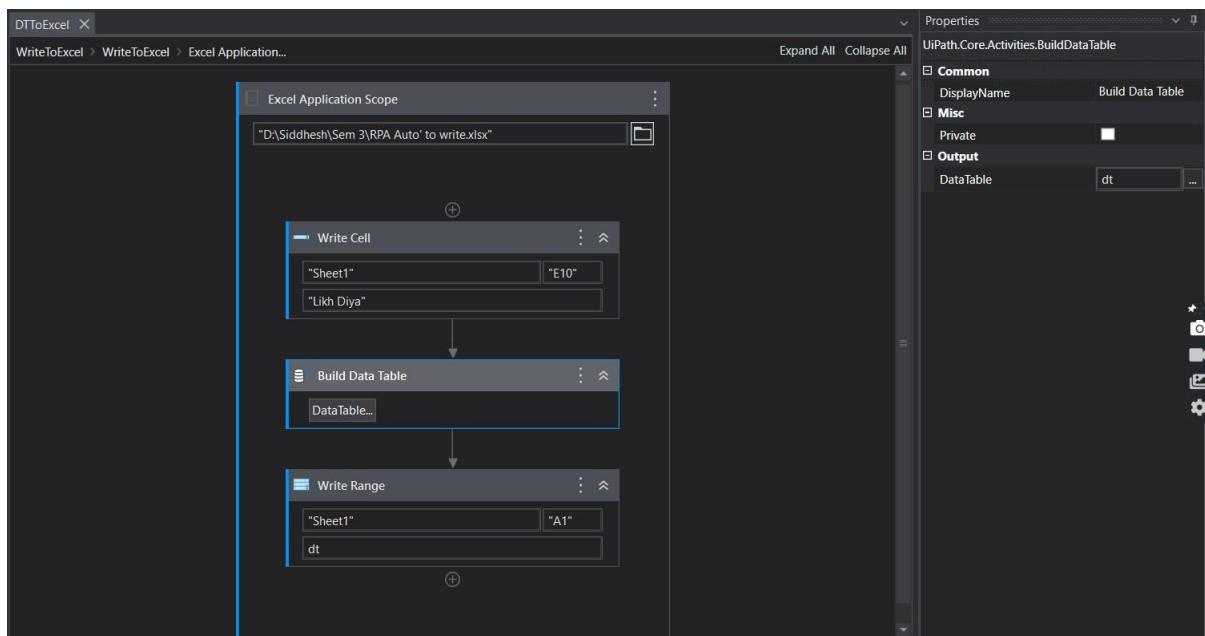


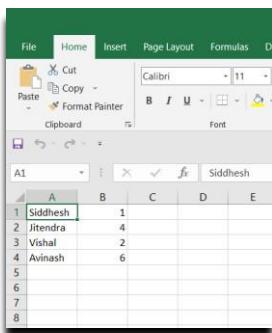
IV. Write Range

1. Drag and drop the Build Data Table activity and write some content inside it. Create its variable which will be by default of type **DataTable**.

	StdName (String)	StdNumber (Int32)
x	Siddhesh	1
x	Jitendra	4
x	Vishal	2
x	Avinash	6
x		

2. Drag and drop the Write Range activity. Specify the SheetName, Cell Range and variable of **DataTable** of Build Data Table inside property panel.
3. Click Run and you will see data of data table gets written on specified excel document.



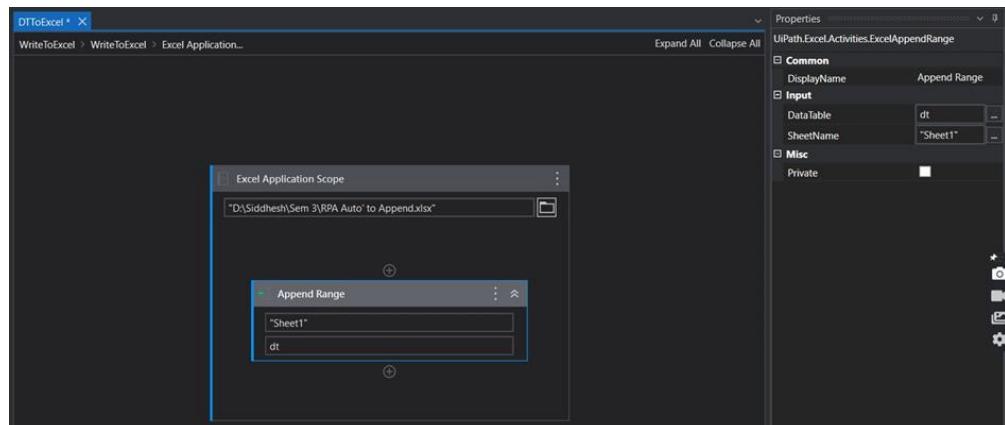
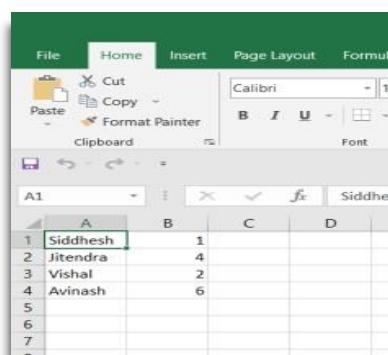
OUTPUT:-


A screenshot of Microsoft Excel showing a table with data. The table has columns A through E and rows 1 through 8. The data is as follows:

	A	B	C	D	E
1	Siddhesh	1			
2	Jitendra	4			
3	Vishal	2			
4	Avinash	6			
5					
6					
7					
8					

V. Append Range

1. Drag and drop the Excel Application Scope activity and specify path of the excel file.
2. Drag and drop the Append Range activity inside Excel Application Scope.
3. We will use the Data Table from the previous Write Range activity and Append it to the Excel File specified inside this Excel Application Scope.
4. Specify the SheetName and variable of DataTable inside property panel,
5. Click Run and you will see the data of DataTable gets appended to the specified excel document path in the Excel Application Scope.

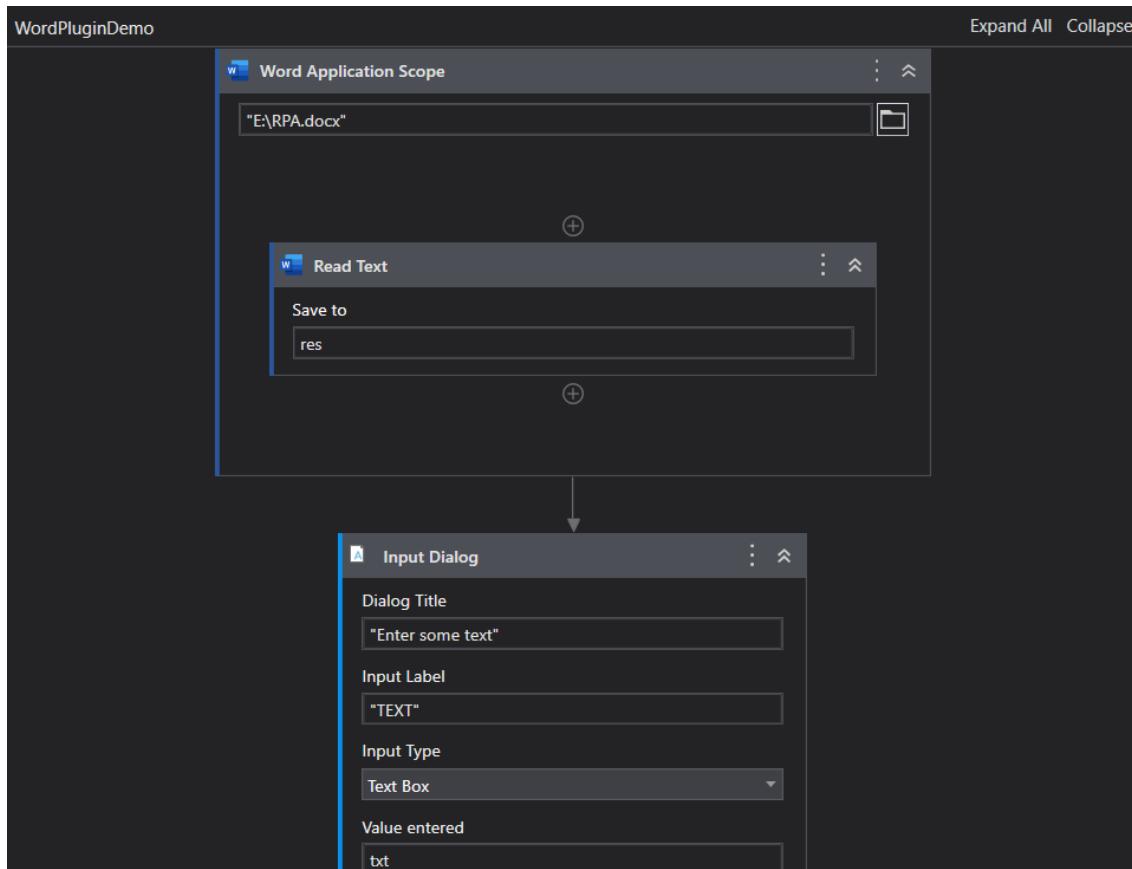
**OUTPUT:-**


A screenshot of Microsoft Excel showing the same table as before, but now with an additional row at the top. The new row contains the value 'Siddhesh' in cell A1. The data is as follows:

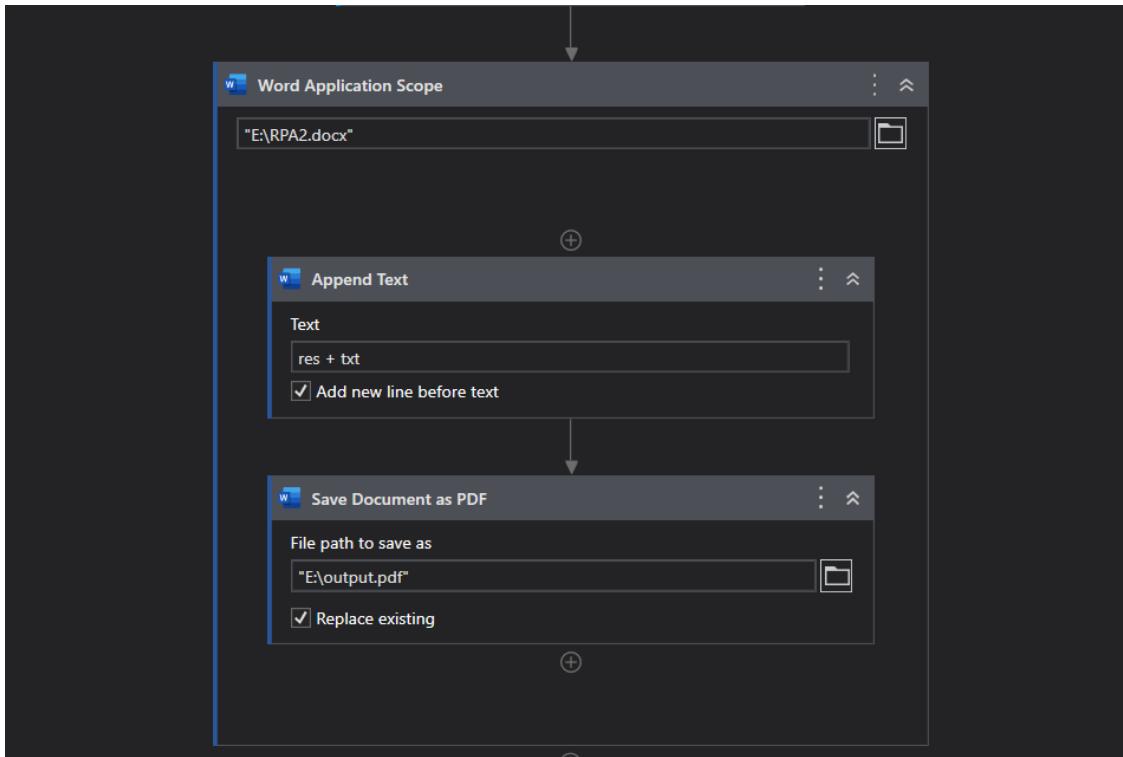
	A	B	C	D
1	Siddhesh	1		
2	Jitendra	4		
3	Vishal	2		
4	Avinash	6		
5				
6				
7				

vi. Word Plugin

1. Drag and Drop the Word Application Scope and provide the path of word document .
2. Create the variable of string type “res” .
3. Add the Read Text Word Activity and provide the variable name here .
4. Now Add the Input Dialog box activity outside the word application scope and fillout thefield & select the Text Box from the Input type section .
5. Create the Variable of string type in the property section of Input Dialog box “txt”

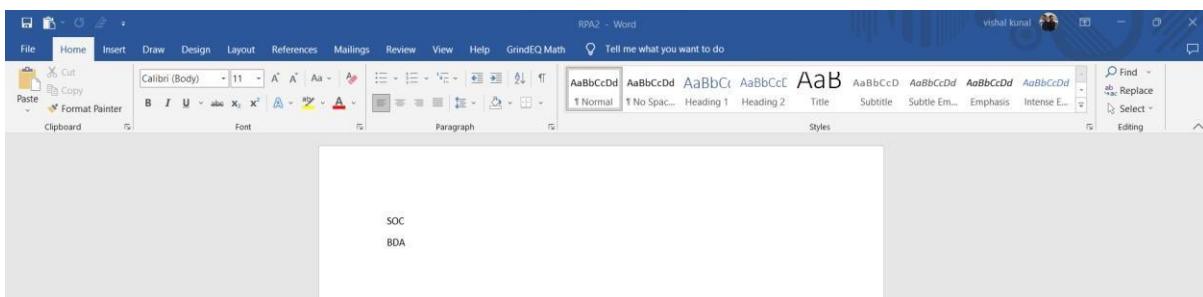
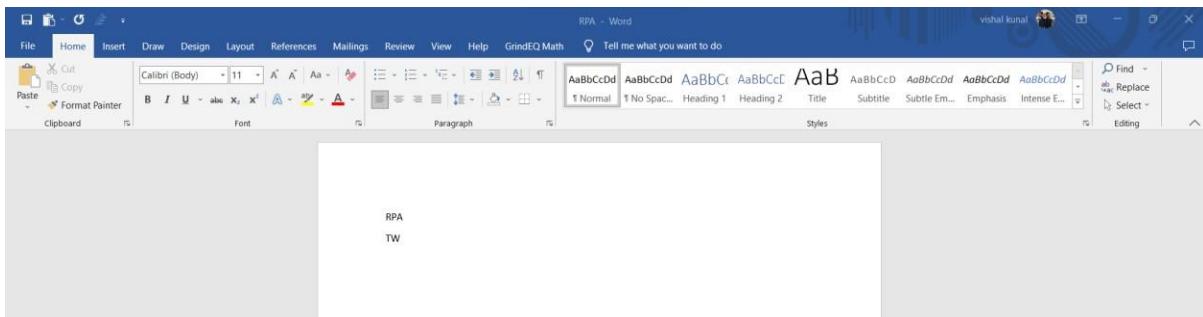


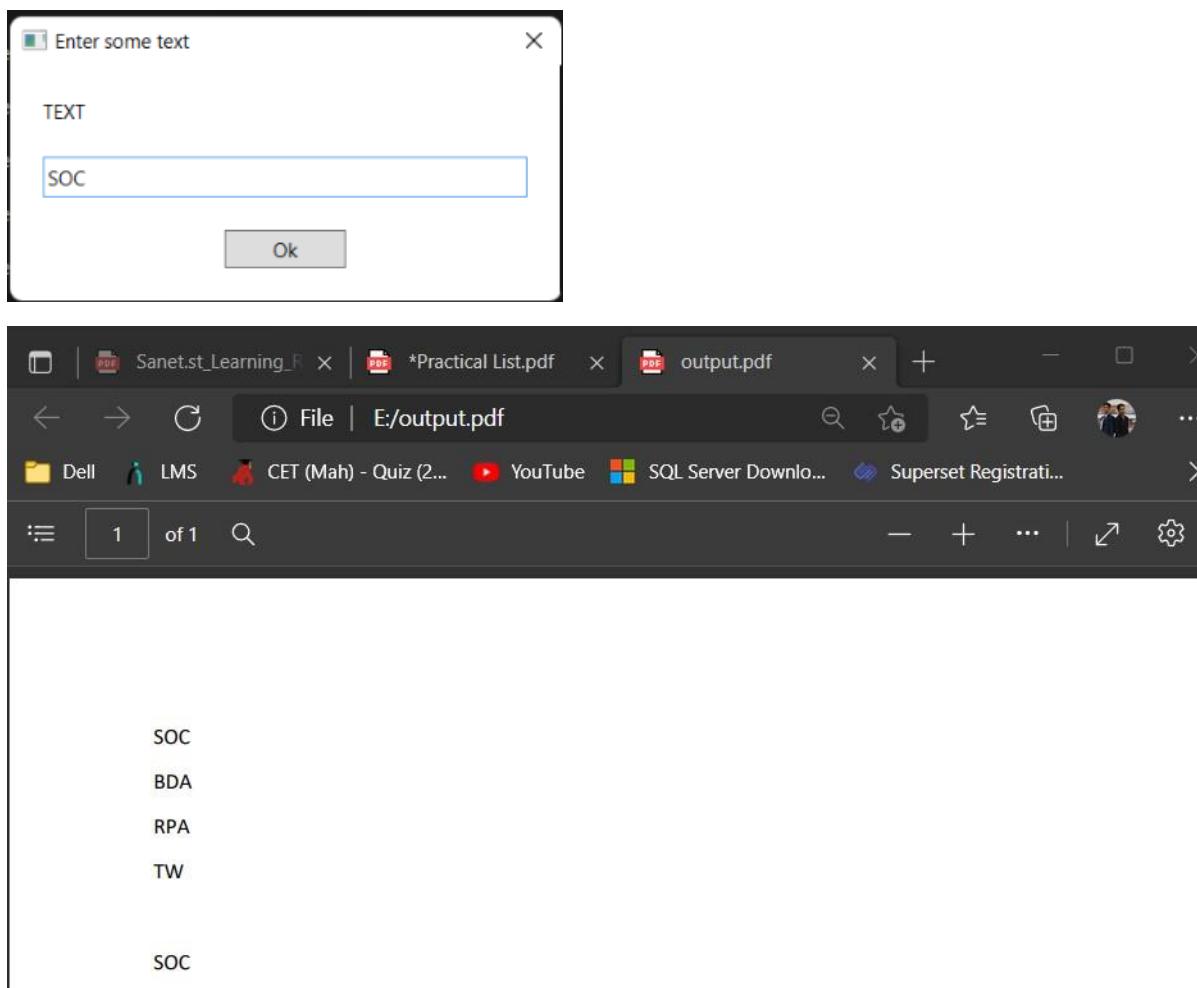
6. Now Drag and Drop the another Word Application Scope below the Input Dialog box activity and provide the path of word document to save the content of first word document .
7. Add the Append Text Activity and type both the variable “ res + txt ” mark on the belowcheck box .
8. Add the Save document as PDF activity and provide the path for saving the output also markthe below check box
9. Run the project to see the output .



Name	Variable type	Scope	Default
txt	String	WordPluginDemo	Enter a VB expression
res	String	WordPluginDemo	Enter a VB expression
<i>Create Variable</i>			

OUTPUT :-

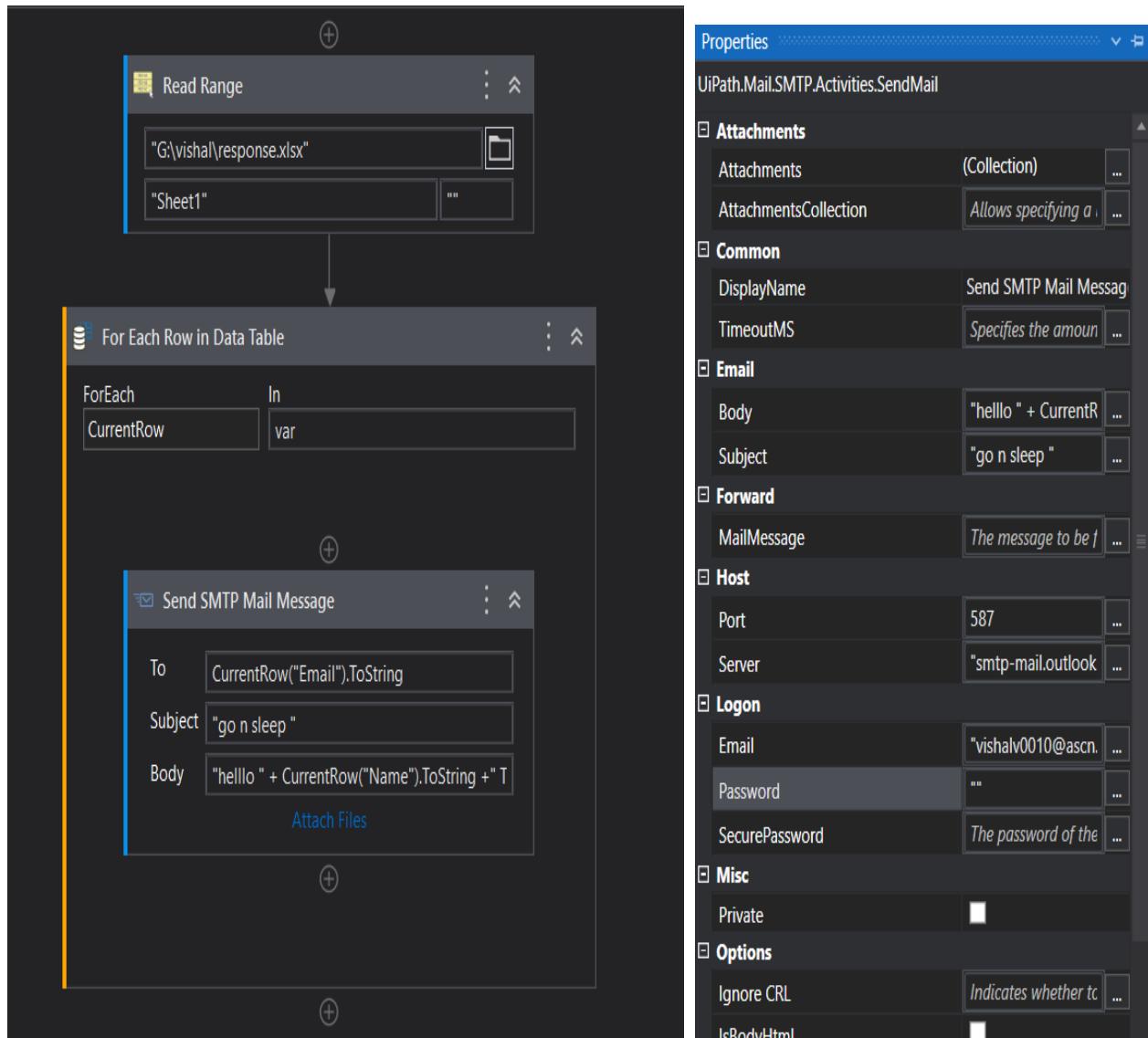




Conclusion : Thus we have studied to Install and automate any process using UiPath with the following plug-ins.

PRACTICAL NO: 9**9A] Automate the process of send mail event (on any email)****STEPS :-**

1. Create a new Blank Project and give it an appropriate name. Drag a Sequence activity fromActivity tab.
2. Drag and Drop the read range activity and give the path to read the excel file
3. Create the variable of for the datatable “var” .
4. Now drag and drop the for each row in data table activity below the read range activity andprovide the variable name you have created .
5. Add Send SMTP Mail Message Activity enter the recipient email, subject and body of theemail to be sent.
6. Enter smtp port number in port attribute of Host and the hostname in server field. Enter theemail and password of the sender in the Logon email and password.
7. Run the project and see the output .

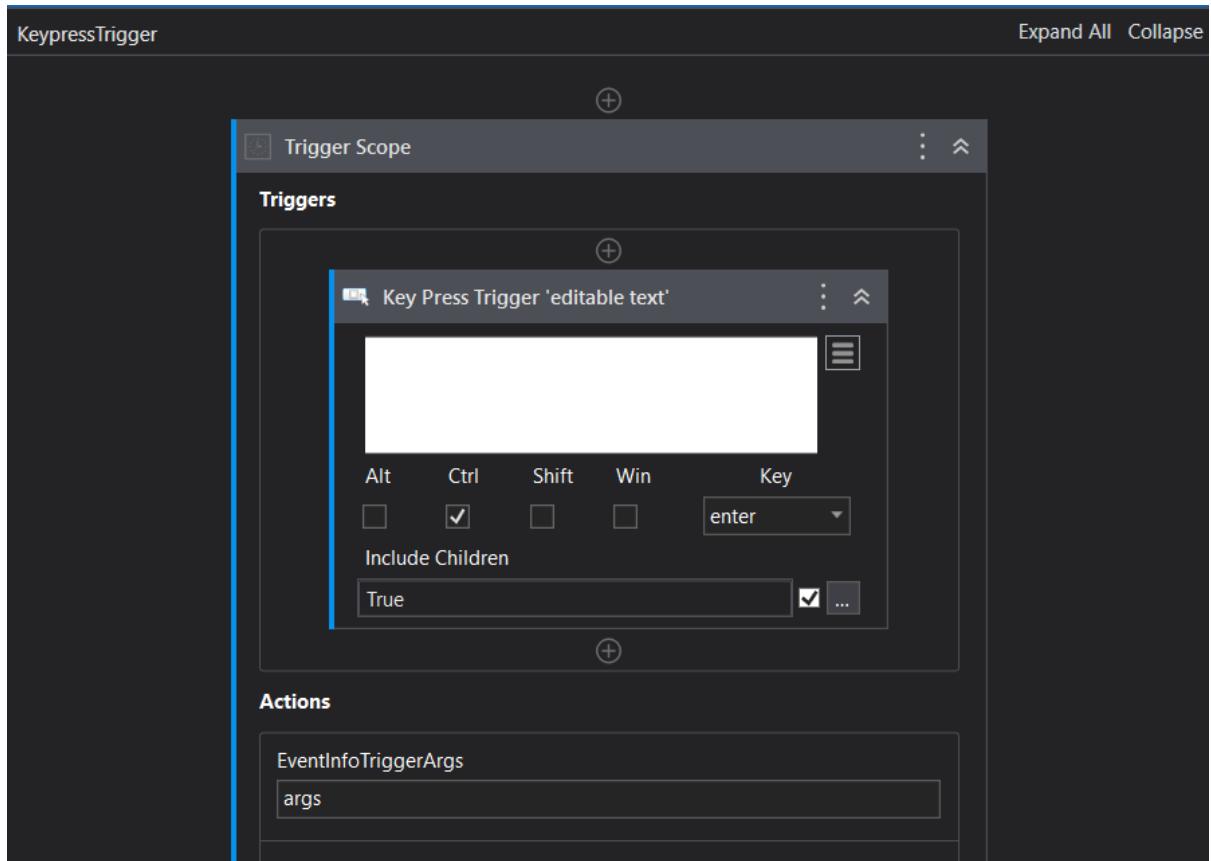


Name	Variable type	Scope	Default
var	DataTable	_9A	Enter a VB expression
<i>Create Variable</i>			

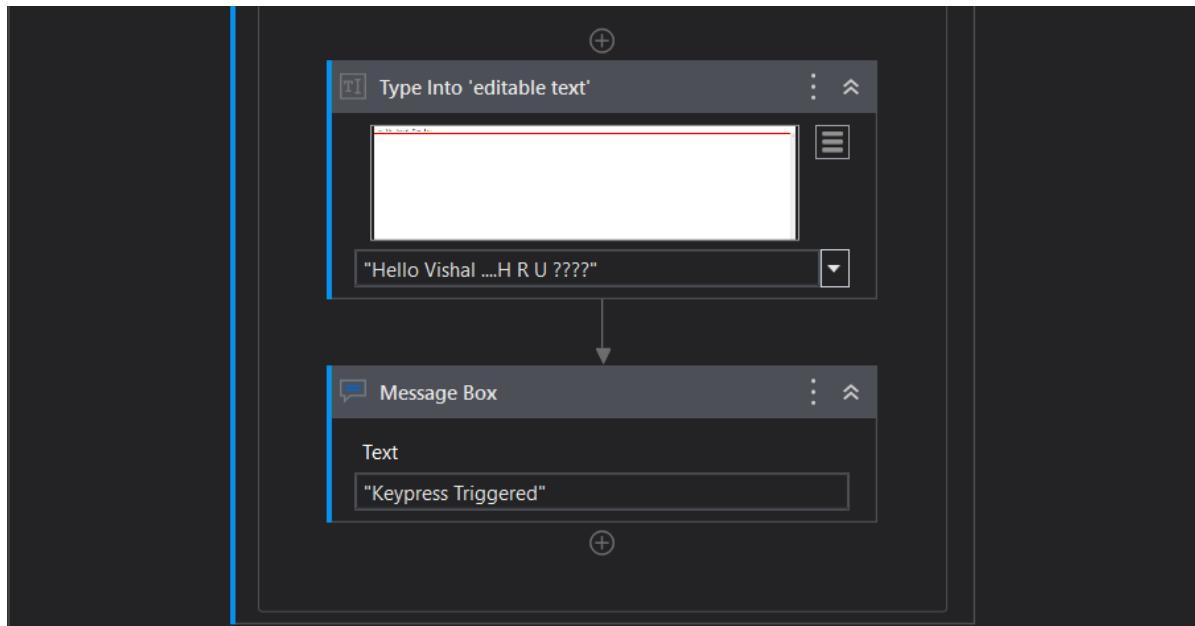
Conclusion :Thus we have studied to Automate the process of send mail event (on any email).

9B] Automate the process of launching an assistant bot on a keyboard event.

1. Drag and Drop the Trigger scop from the activity panel .
2. Add the **Key Press Trigger** inside the Trigger scope and mark on **ctrl** and select **ENTER** from the drop down list .



3. Add the Type Into inside the Action Section and click on the Indicate on Screen option and indicate the notepad file to type the text .
4. Drag and drop message box below the type into
5. Now run the project and see the output .

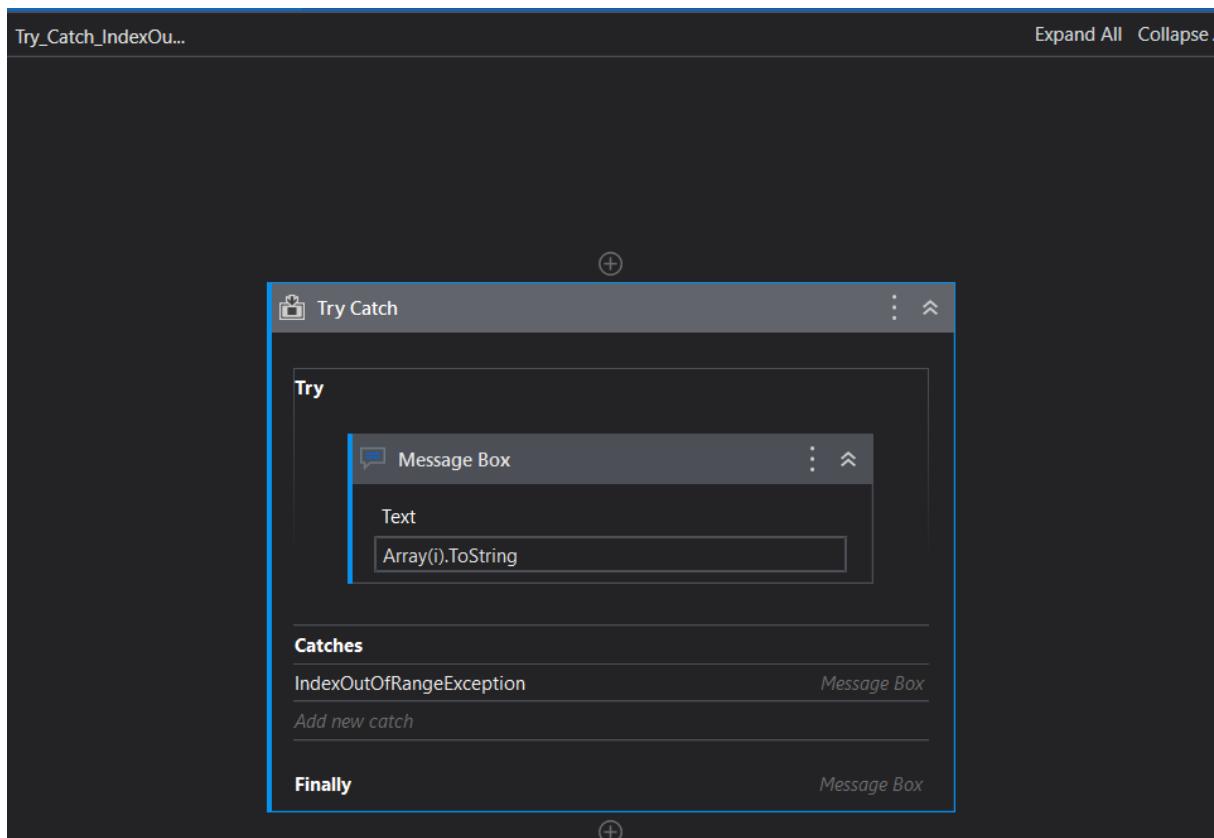


Conclusion : Thus we have studied to Automate the process of launching an assistant bot on a keyboard event.

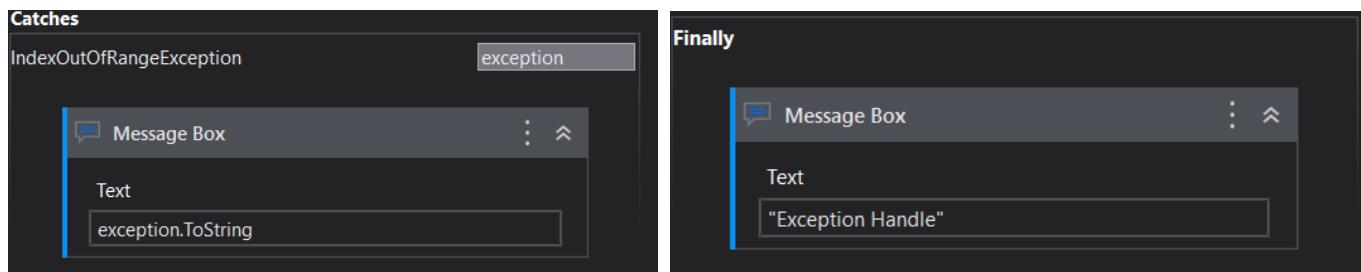
**9C] Demonstrate the Exception handing in
UiPath.**

STEPS :-

1. Create new project: Open UiPath and create new project by clicking on “Process” option atthe right side of the window. And open a sequence
2. Create a two Variable name array of array type in32 and “i” of integer
3. Select Activity Try Catch from Activities and Insert sequence in it.
4. Now drag and drop the message box inside the try catch activity and type the array variableyou have created .
- 5.



6. Select the IndexOutOfRangeException in the catch block
7. Add a WriteLine Activity in the Catch Block and in Finally section
8. Run the project and see the output .



Name	Variable type	Scope	Default
Array	Int32[]	Try Catch	{}
i	Int32	Try Catch	-1
<i>Create Variable</i>			

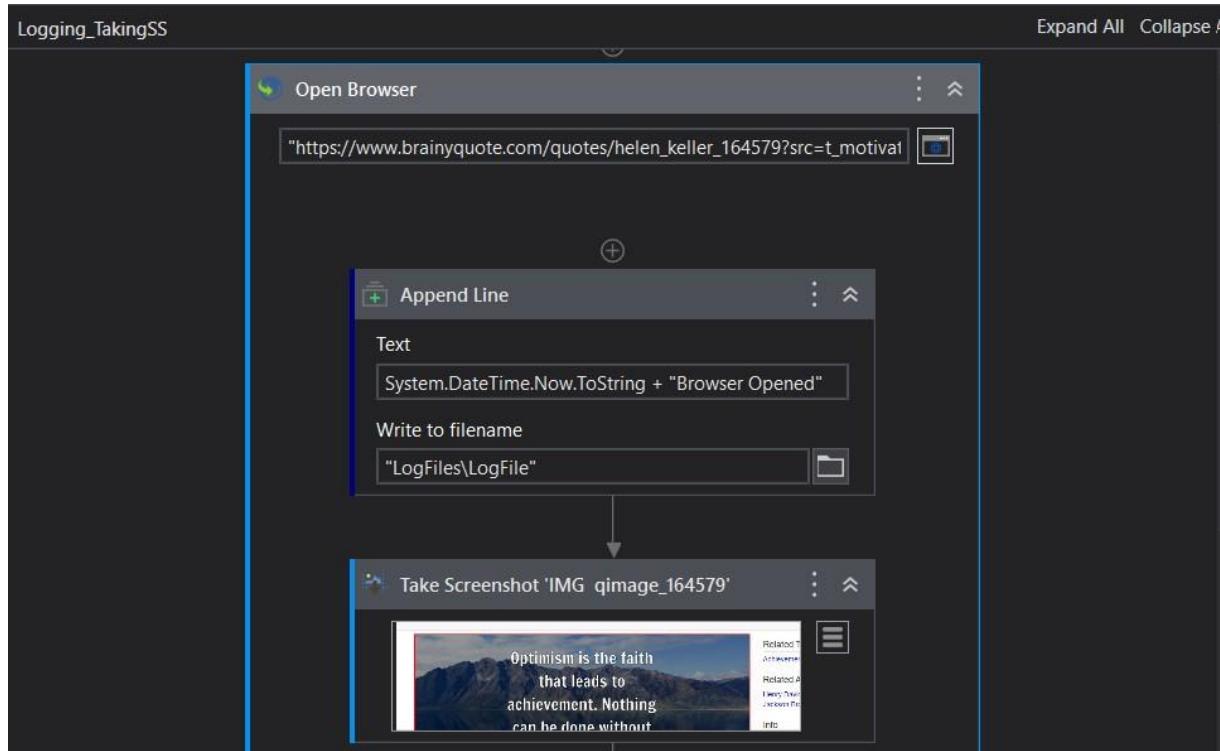
Output :-



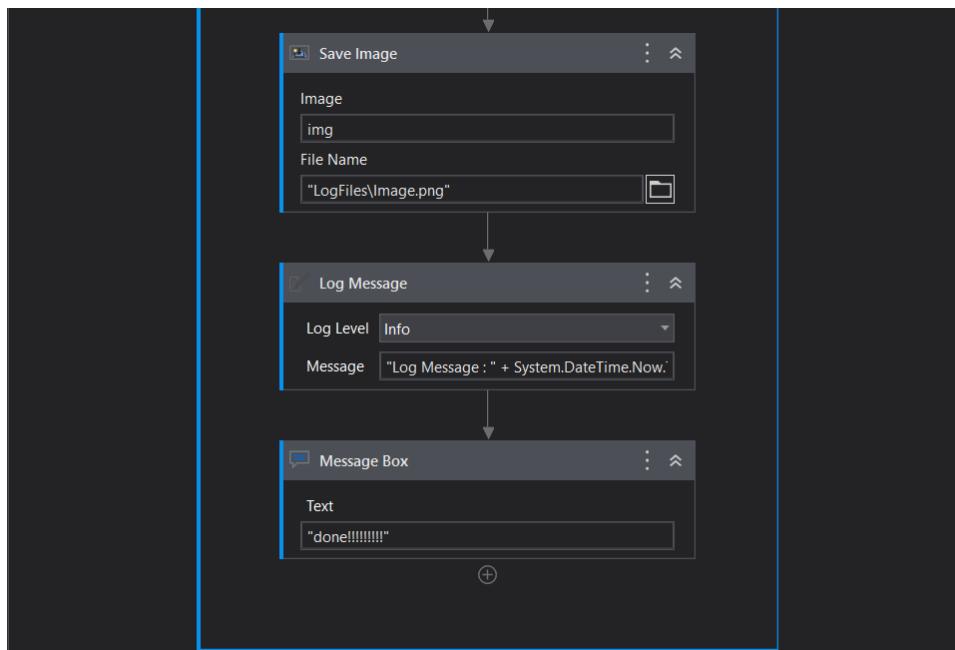
Conclusion :Thus we have studied to Demonstrate the Exception handing in

PRACTICAL NO: 10**10A] Automate the process of logging and taking screenshots in UiPath****Steps :-**

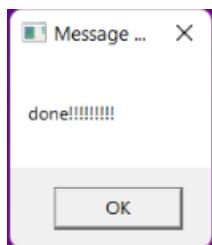
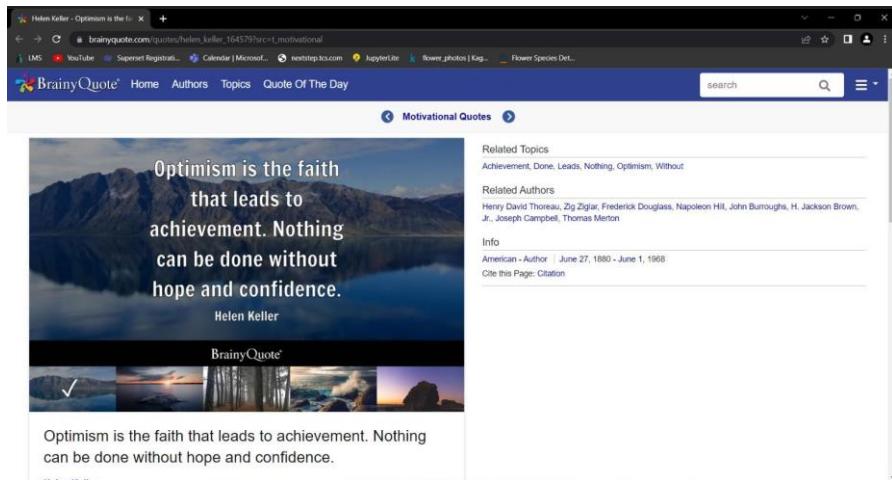
1. Select the sequence and give meaningful name
2. Drag and Drop the open browser inside the sequence activity and insert the URL .
3. Add the Append Line and provide the text you need print .
4. Drag and drop the Take Screenshot Activity and click on indicate on screen and indicate the photo you want capture .
5. Also create the variable for Take Screenshot Activity in the property section of takescreenshot . “img”



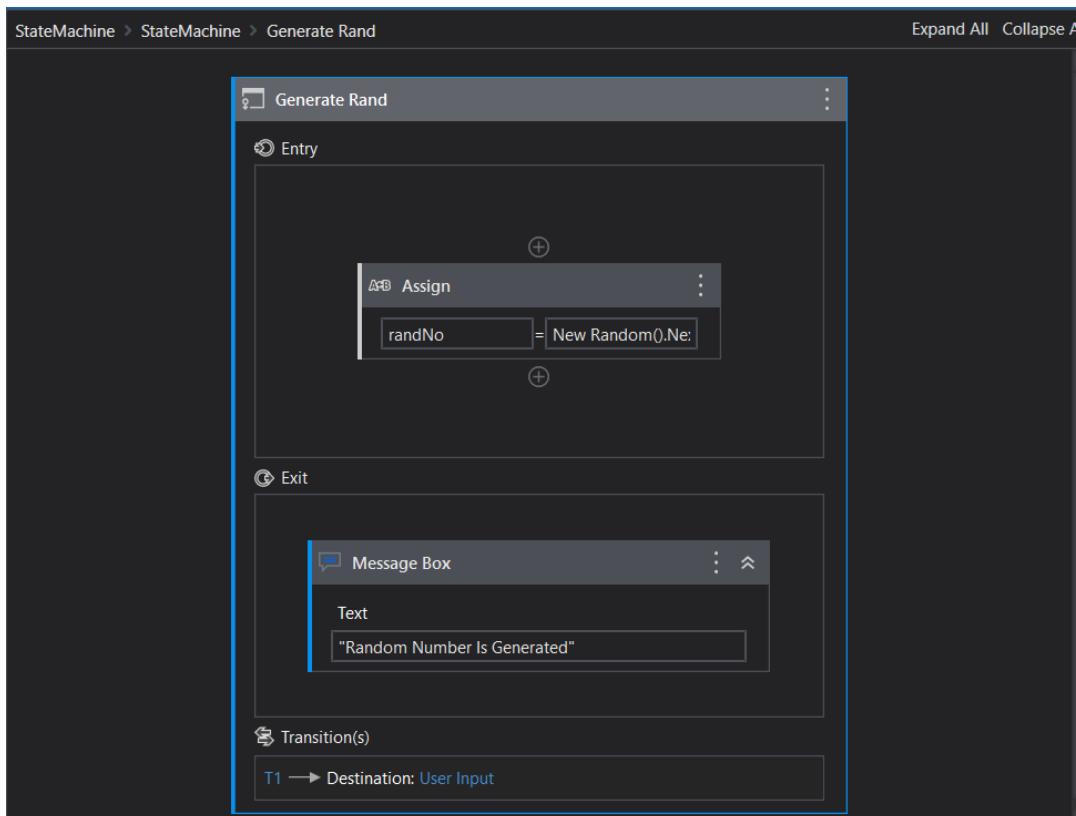
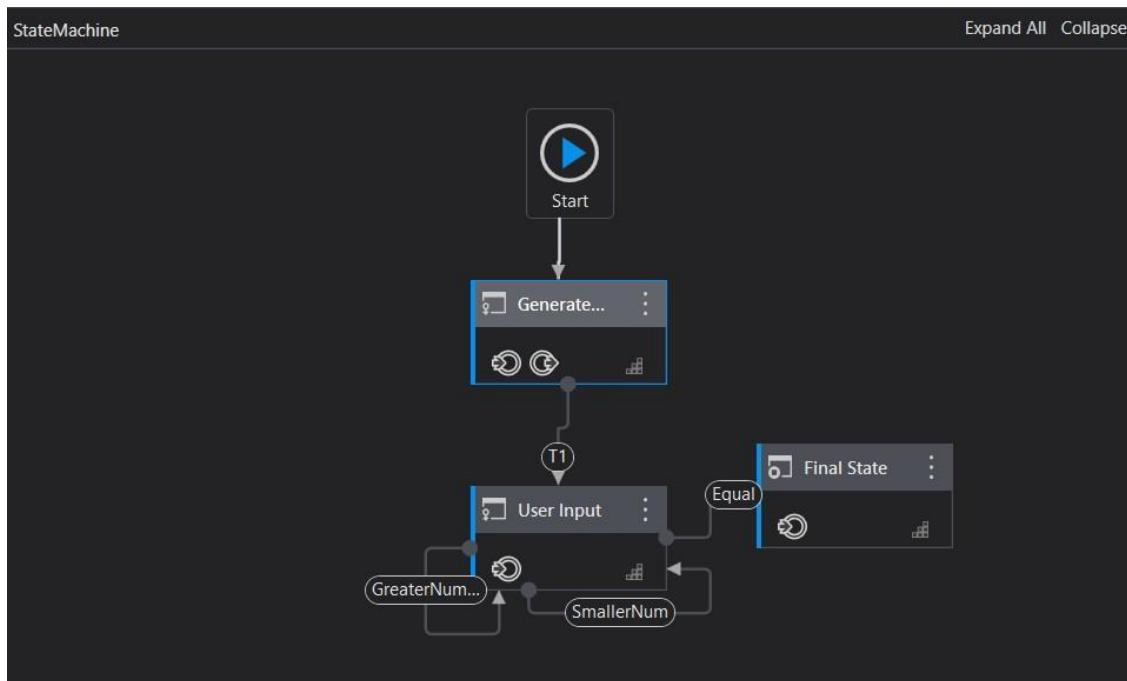
6. Add the save image activity and provide the variable name created for the take screenshot activity and also give the path for image to save .
7. Now Drag and Drop the log message activity .
8. Add message activity to display the output .

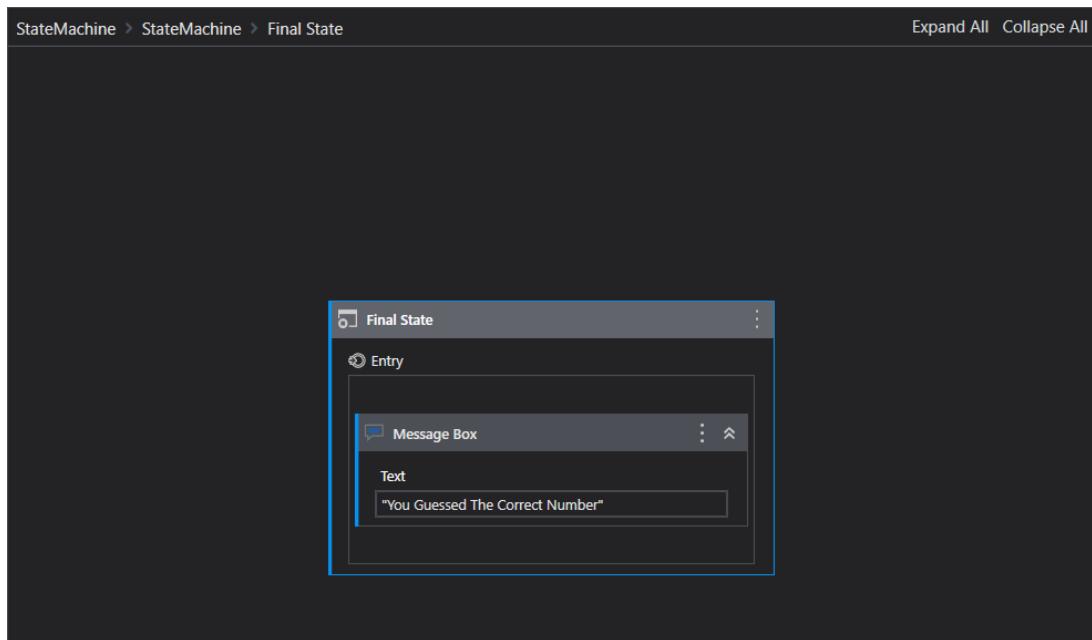
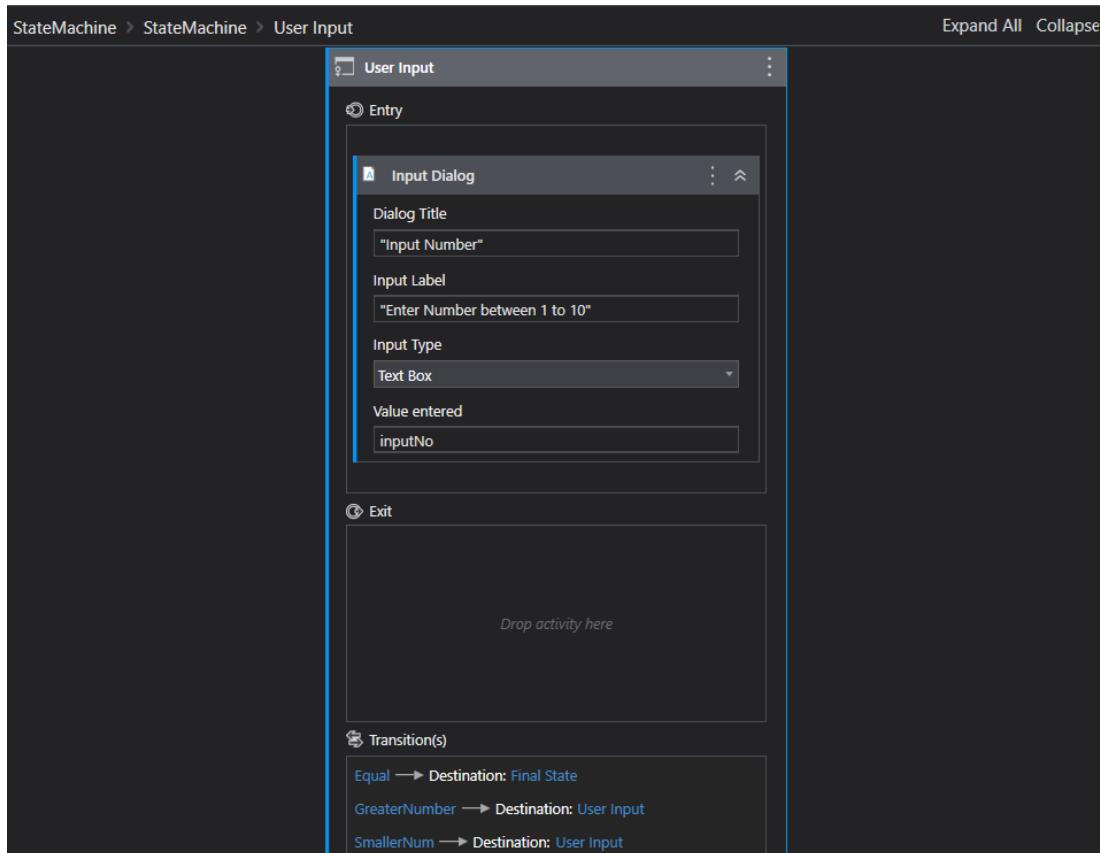


Output :-

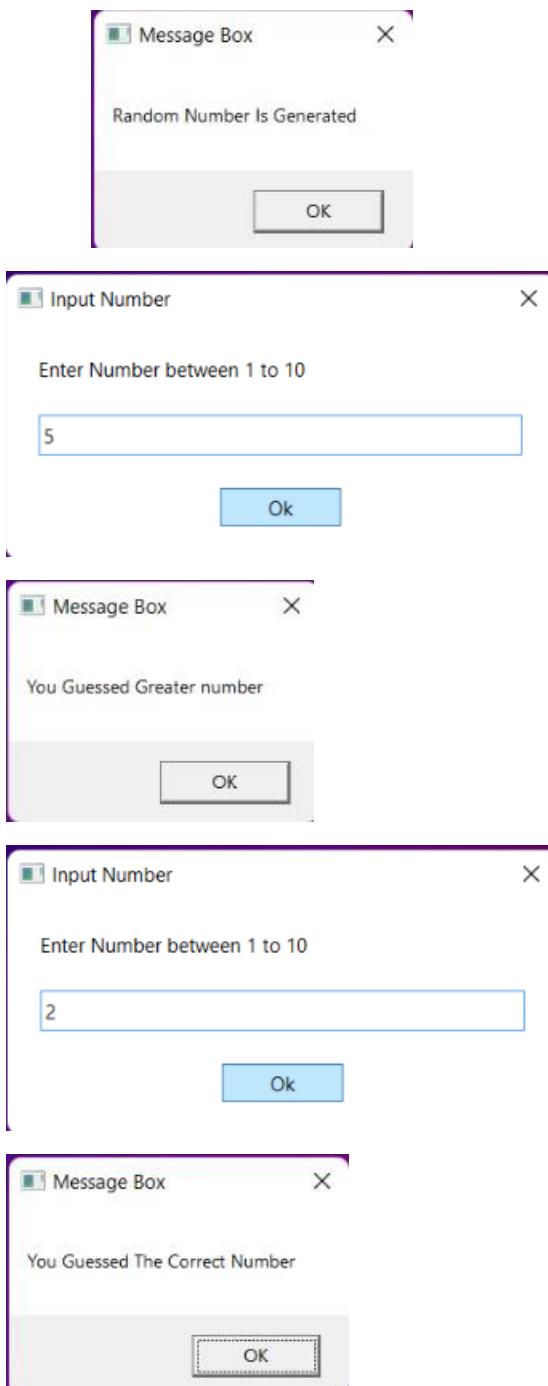


Conclusion : Thus we have studied to Automate the process of logging and taking screenshots in UiPath.

10B] Automate any process using State Machine in UiPath.



Name	Variable type	Scope	Default
randNo	Int32	StateMachine	Enter a VB expression
inputNo	Int32	StateMachine	Enter a VB expression
Create Variable			



Conclusion : Thus we have studied to Automate any process using State Machine in UiPath.