

It's a Must Read
for Everyone who
is planning to
attend RPA
UiPath
Interview...



80+ RPA UIPATH MUST READ INTERVIEW QUESTIONS



How to Crack RPA UiPath Interview
Confidently?



BY SHARATH RAJU

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Preface

In this guide we will discuss about different types of questions that can be asked in a RPA UiPath interview, in order for the employer to test your skills in RPA and Automation in general. In the following sections we will discuss about RPA and its abilities, general questions regarding UiPath and its functionality, and many other topics.

About the Author

I'm Sharath Raju, a Senior RPA Developer with 7+ years of Experience in RPA Domain and currently pursuing master's in ML and AL from LJMU, UK. My main interests include RPA, UiPath, Web Development and AI Field.

You can follow me on:

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Increase Your Chances Of Getting Hired As A RPA Developer 💡🚀

If you are someone who is tired of attending interviews 😞 because of no proper guidance or just because you didn't have real time experience...

Or

If you are someone who already have some offers, but looking out for some good opportunities in terms of compensation 💰, growth 🧑 or many other N reasons...

Then, you have come to the right place 🍷

If the above feelings shows up in your mind, don't worry...

You are not alone, they comes up in everyone's mind...

Okay... now let's look at the different reasons you might be trying to switch the job 😞

- You work as QA engineer now, and you want to upgrade to developer and you found RPA interesting over the other alternatives
- Maybe you have a BPO job, and that drains your energy by the time you are home
- You might be someone who has lost the job recently due to some unexpected issues
- Maybe you already work as a developer and use other technologies and one day you came across RPA and it impressed you
- If you are student, then the RPA might be interesting to you as it's an emerging technology
- Or it can be just that, the market that you are working now is getting saturated and the chances of competition is much more...

One of the above might have triggered the thought in you to pursue the RPA developer career



Now what?

Since it's a completely unknown terrain to you...

The fear of failure and the uncertainty in terms of outcomes might hit you down creating thousands of thoughts in mind

Isn't it?

Again, believe me it's too common to happen...

Don't be worried 😊

Because, it's possible to switch the career...

I'm not telling that just for the sake of making you feel little confident, but it has happened to lot of people that I know...

And if they can make it, wouldn't you be?

Yes definitely, you can make it too🙌

But if you are someone, who is thinking it will happen in a week or a month...

Sorry I don't want to see you failing at your attempt, so you can drop the article here and go with whatever approach you have in your mind...

But...

But...listen!!!

If you are really serious about the change that you are seeking in your career and the opportunities that you are trying to grasp

Then it's better that you know, that it's going to take more time than that...

May be 2months, 4 months 21days, 6 months, 6 months 13days or 1 year sometimes

Can't predict the exact time, but if you keep making progress by learning new things, it will happen one day👊

Now, assuming you are all set by now and serious about your career advancement and have the commitment to make the needed progress 🙌

Now what?

Here comes the challenge 😊, most of the time you will not find the right guidance because of which you end up wasting your valuable resource which is time ⌚

A lot of them go through it every day, and then soon realise it but by that time they might have already spent a huge amount of time learning everything possible but not the things that are needed for them to crack the interview...

So, keeping that pain in mind, I will try my best to guide you with the help of this article 🙌

Let's begin now...

Wait, that get confused when I use few terms that you are not yet familiar with because you will be learning those things soon anyway 😊

First things first,

As an RPA professional, get yourself familiar with some industry use cases which the organisations around the globe are automating, as that will give you the basic idea of how RPA is changing the way the businesses operate and what are the business processes that you can identify in your organisation and automate them 🙌

You can refer: <https://trubot.datamatics.com/resources/rpa-use-cases/>

Now, what?

By now, once you go through few of the use-cases...

You know the opportunities available and might want to take the advantage

Isn't it?

Now is the time to get ourselves equipped with the needed skills 😎

#1.

One thing to remember while learning RPA is that, all the tools that facilitate RPA have the same functionality at the core. So don't be worried about which tool to pick. Perform some research on which tool is leading the market and directly jump into it without wasting much time because if you can get yourself familiar with one RPA tool then learning one more will be a damn easy thing!!! Believe me 🙌

#2.

Now, try to understand the basics of that tool and concentrate more on the core features of that particular RPA tool.

Make a note of everything possible so that you can keep it with you for future reference.

#3.

Next immediate thing that you have to do is, get started with some basic programming.

Wait wait, did I make you feel uncomfortable?

Sorry if I had, but learning the basic programming is going to add a lot of advantage to you and your profile because it will give you a competitive advantage over the others and will provide you the needed skills to excel in the market and the project implementation 🙌

Select a language of your choice but...

Preferably .Net as most of the RPA tools are built upon .Net framework 🙌

#4.

Get yourself familiar with Microsoft office products like Excel, Word, Outlook etc. and try to perform some automations on them.

#5.

Now, it's the time to get our hands 🖐 on some websites and web applications!!

You can pick some e-commerce sites, social networking sites etc.

Start automating the routine tasks that you perform on these sites manually and feel that they can be automated 🙌

#6.

And now because most of the applications that we interact with at enterprise level are desktop applications in general, so it's required that we get familiar with desktop apps automation.

It's not difficult than the web applications, so not to worry much about it.

#7.

API Automation: You can try to interact with APIs using your preferred RPA tool.

Because most of the RPA implementations at organisations include API integration in it!!

#8.

Database integration: This is one of the mandatory things that you should get yourself familiar with, as we will deal with SQL, Oracle database .etc. during our process automations to fetch the input and to save the data.

#9.

Data Extraction: This is also one of the most frequently used things during our process automation, try to learn the different methodologies available for extracting the data from PDFs and other documents 🙌

#10.

Version Control: This component has its own importance by itself as it is something which helps us in keeping the track of changes made to the code and also helping different team members to collaborate while building the solutions.

#11.

Tool Framework: Most of the tools used for the RPA implementation already have some or the other form of frameworks that they recommend while implementing the automations, as they will help you build some robust solutions.

#12.

If you get a chance to work with any of the below mentioned things and automate them then, you can have more better understanding of how to integrate RPA with them and also it can add some advantage to you over your fellow candidates while appearing for interviews 🙌

ServiceNow, Mainframes, Salesforce etc.

Yeah, that's all you need to increase your chances of getting selected.

And if you can learn all this core elements of RPA, then you can go ahead and start exploring the advanced features of RPA.

But, please don't jump directly into the advanced topics before going the mentioned topics 😊🙏

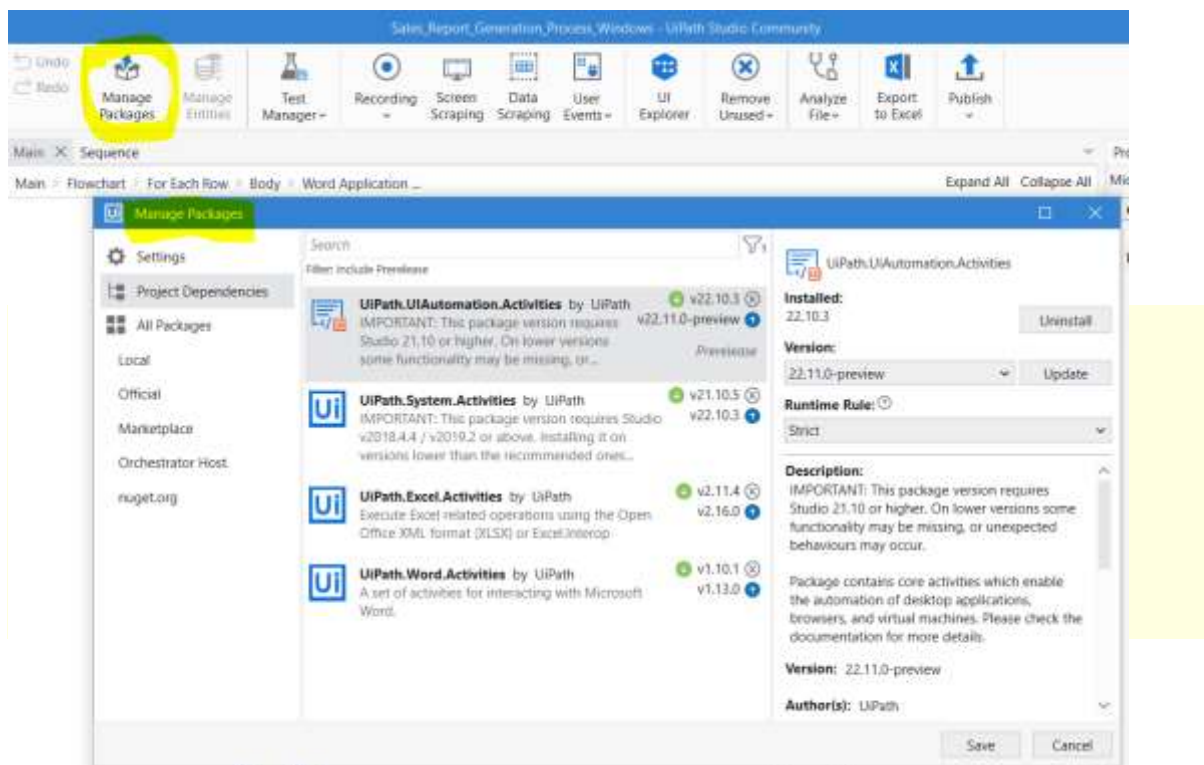
Good luck, do your best!! 🙌🙌

PS: I will be updating this article often, so that it will stay relevant.

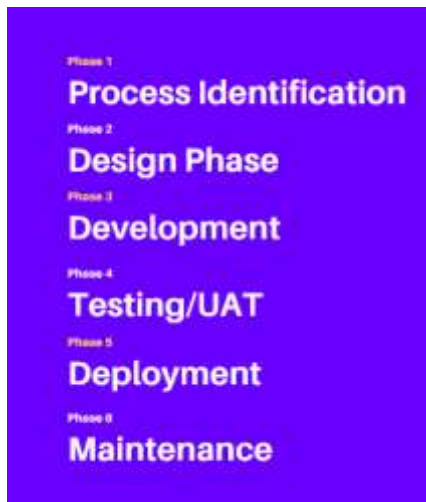
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1. What are the benefits of Manage Packages option in UiPath?

The Manage Package option in UiPath Studio allows users to download activity packages and libraries. It also allows users to view and update the ones already installed for the project and add new packages which are required for the current project or remove them when not required. The Manage Packages window always shows up the Project Dependencies list when opened.

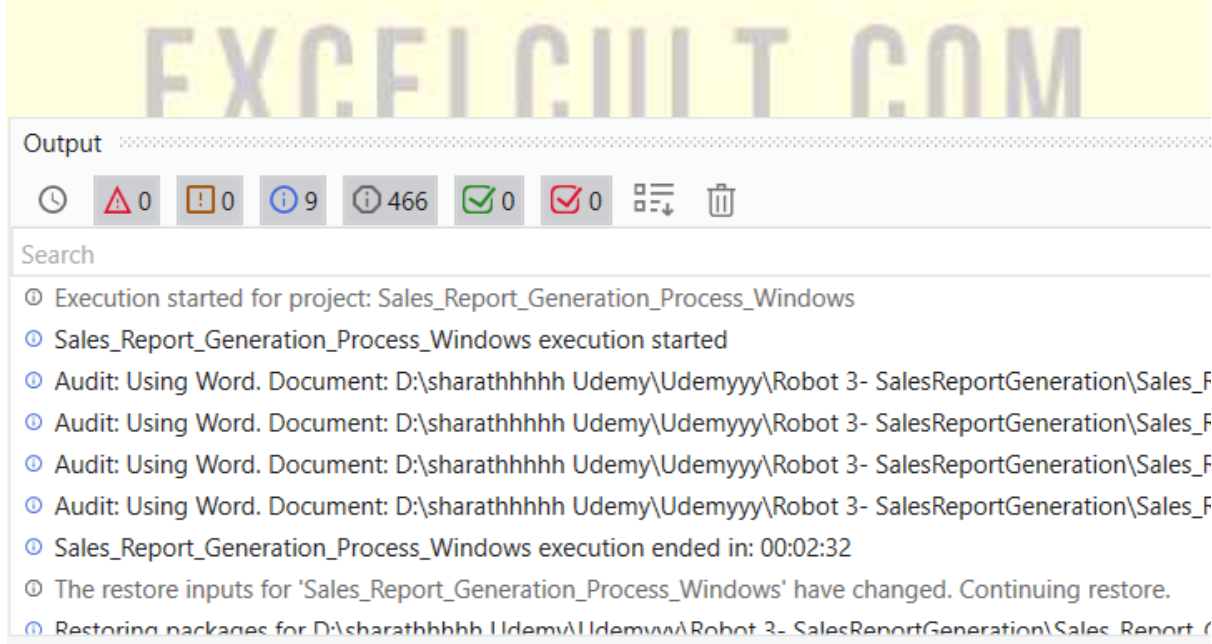


2. What are the steps involved in RPA Life Cycle?



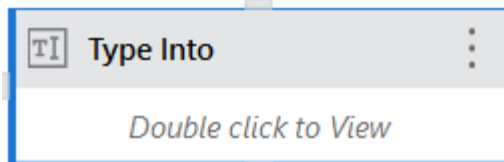
3. What is the use of Output Panel in UiPath Studio?

The Output panel in Studio enables you to display the output of the Log Message, Write Line activities, or display errors and warning messages, as well as the logs when the debug mode, is activated.

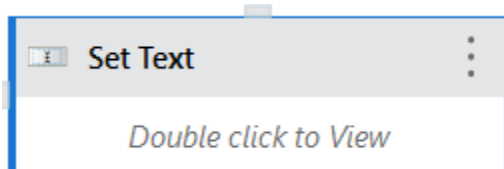


4. Name two activities that can be used to enter data into the Web app?

1. Type Into Activity: Type into will simulate the same keystrokes as how a human types text into a text box (Type Into is normally typing from a keyboard)



2. Set Text Activity: Set Text will set the given value in the text box in one attempt (Set Text is like Pasting the content)



Simply, In Set Text it's like a copy-paste where it will directly paste that content whereas in Type into it will enter characters just as human types which helps us in using special keyboard facilities like Tab, Capslock etc

Type Into can be used for Edited fields only, while Set Text can also be used in a scenario where text box is disabled.

5. What is an array and example?

An array is a collection of similar types of data. For example, if we want to store the names of 100 people then we can create an array of the string type that can store 100 names.

We can access the data inside arrays using indexes.



Accessing Array Elements

- An element is accessed with the help of index no.

```
int mark[5]={19,10,8,17,9};
```

Each and every array starts with index0.

mark[0] mark[1] mark[2] mark[3] mark[4]

19	10	8	17	9
----	----	---	----	---

6. What is a Data Type and give a few examples of UiPath-supported data types?

Data Types specify the type of data a variable can hold or store, all variables defined must be assigned to one of the data types.

Commonly used datatypes in UiPath are :

- Generic Value
- Text
- Boolean
- Number
- Array
- Date and Time
- Datatable

Common data types

Data type:	Example value:
Integer	35462216
Floating-point	0.002756
Char	H
String	Hello, World!
Boolean	true

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There are a lot of datatypes available apart from the above and can be accessed by selecting “*Browse for Types*” Option available.

For more info: [Click here](#)

7. Can you please explain about dynamic selectors?

Let's first understand about the selectors first, it is a functionality provided by the UiPath Studio which helps us to interact with the Graphical User Interface (GUI) elements of the web apps, windows apps or any other Ui app by identifying their tags and attributes.

Let's look at an example:

This is how we humans sees it...



This is how a software or a bot see it...

```
<html title='Google' />  
<webctrl tag='INPUT' type='text' aaname='Google Search' />
```

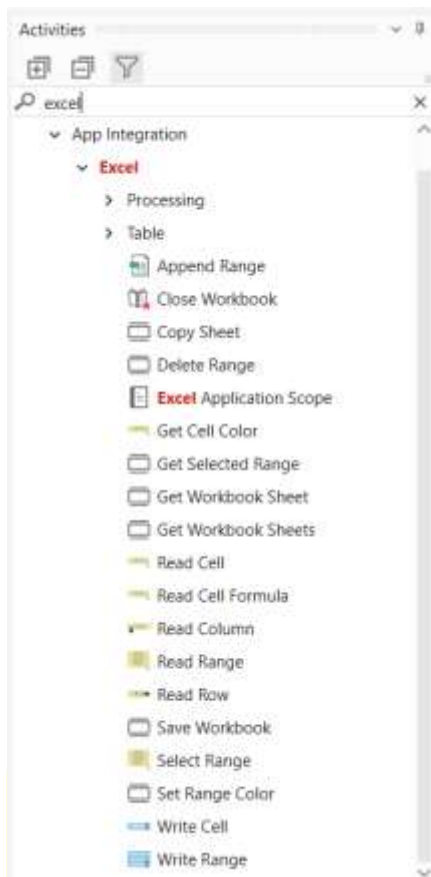
As we can see from the above, selectors are composed of several nodes and each node has one or more attributes associated with it. Modifications to the attributes can be done as per the requirement.

For example, if the title of the window is not constant, the value of the attribute can be modified to make it dynamic by using wildcard characters .i.e. * and ? which helps us in converting static selectors into dynamic selectors.

Some of the attributes are id, class, type, attribute, etc.

8. Difference between excel and workbook activities of UiPath?

To use “**Excel**” activities, MS Office(Excel) should be used installed on the target system. Excel files can be kept open while using the file. Excel activities can only be used within the Excel Application Scope.



To use “**Workbook**” activities does not require Excel to be installed to use them. Excel file should be closed while using the file.

- Append Range **Workbook**
 - Get Table Range **Workbook**
 - Read Cell Formula **Workbook**
 - Read Cell **Workbook**
 - Read Column **Workbook**
 - Read Range **Workbook**
 - Read Row **Workbook**
 - Write Cell **Workbook**
 - Write Range **Workbook**

Note: Excel Activities have got more features when compared to Workbook activities

9. What is an attended and unattended bot?

Robots can be attended or unattended based on the requirement

Attended Bots:

These front-office bots can be useful when the entire end-to-end process cannot be automated and it should work along with the user to achieve the results.

It allows the data exchange between the user and the robot.

They can be triggered by system events.

Example: call Center-To fetch the required information

Unattended Bots:

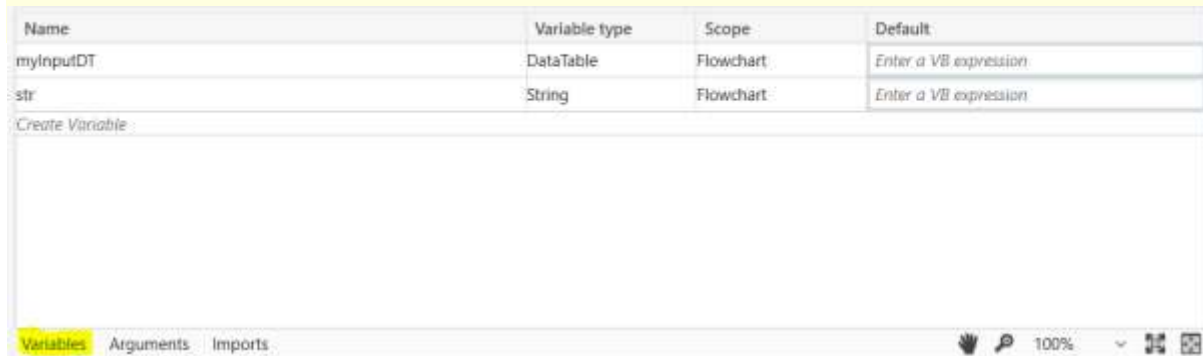
These back-office bots can be implemented when the entire end-to-end process can be completely automated and the bot can work independently without any human intervention.

They can be triggered by system events or they can be scheduled.

Example: Bank-To process the transactions

10. Difference between variables and arguments?

Variables are used to pass the data between the activities of the same project, while **Arguments** are used to pass the data between the workflows, XAML files, or projects.



Name	Variable type	Scope	Default
myInputDT	DataTable	Flowchart	Enter a VB expression
str	String	Flowchart	Enter a VB expression

Create Variable

Variables Arguments Imports

100%

Arguments have global scope in a workflow, XAML file or project by default, unlike variables where we can define the scope for them manually as per the requirement.

Name	Direction	Argument type	Default value
in_email	In	String	Enter a VB expression
in_id	In	Int32	Enter a VB expression

Create Argument

Variables Arguments Imports

100%

Variables and Arguments both are cases insensitive.

11. What is AS-IS and To-Be Process?

AS-IS process is nothing but the Pictorial representation (Flow diagram) of the existing process and in RPA it represents the steps carried out manually by the business team.

Flow diagrams or flowcharts are generally prepared by using tools like Microsoft Visio by Business Analysts covering all the steps in the process.

The to-Be process represents a new approach to the existing process and in RPA it represents a design that will be used to automate the process to increase efficiency.

12. What do you mean by PDD and SDD?

PDD stands for Process Design Document. A PDD contains the details about the Process like steps that are executed in the AS-IS process and the To-Be process.

As a best practice in the IT industry, a PDD has to be signed off by the Business team to start a process in order to avoid challenges in the future.

SDD stands for Solution Design document which contains the details about the design that will be used to automate the process.

A few companies call it a Development Specification Document which majorly covers the details of the Workflows implemented in the code.

Additional Reference:

[PDD](#)
[SDD](#)

13. Please explain something regarding Project documentation work?

The business Analyst will take of the “Business Requirements Document(BRD)”

SDD, PDD, and TDD will be handled by the technical team.

It is a good practice to have a step-by-step detailed document (i.e Key Stroke Document) of the manual process along with screenshots for best results.

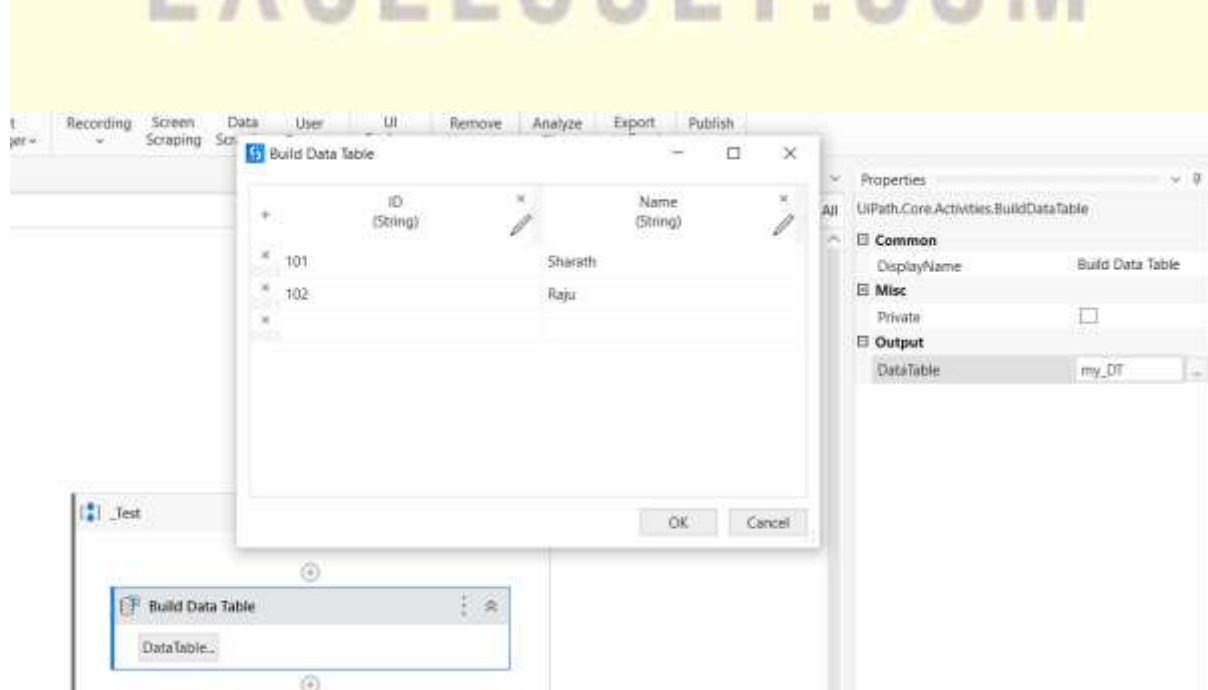
Additional Reference:

[Article on documentation](#)

14. What is a DataTable? How can we get the number of rows and columns in a DataTable?

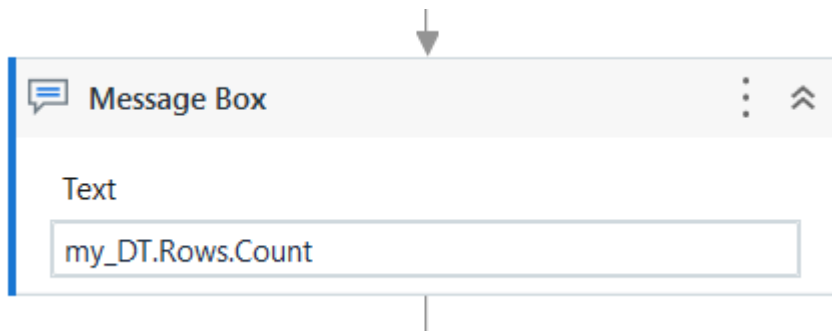
The DataTable in C# is similar to the Tables in SQL. That means the DataTable is also going to represent the relational data in tabular form i.e. rows and columns and this data is going to be stored in memory which can be used later for any manipulations.

Let's assume that my_DT is the DataTable variable :



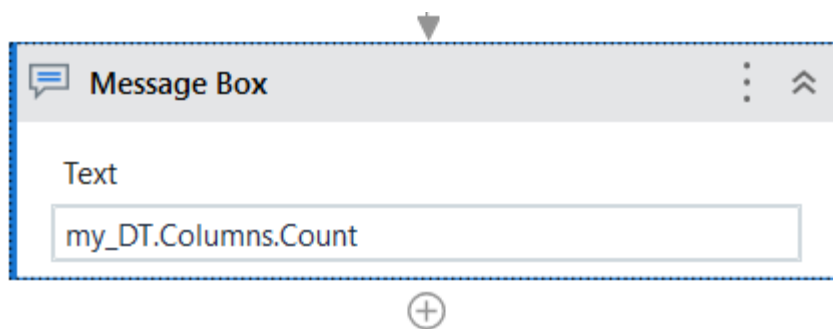
To get the number of rows in a DataTable “my_DT”, we can use the following code snippet :

```
my_DT.Rows.Count
```

To get the number of columns in a DataTable "my_DT", we can use the following code snippet :

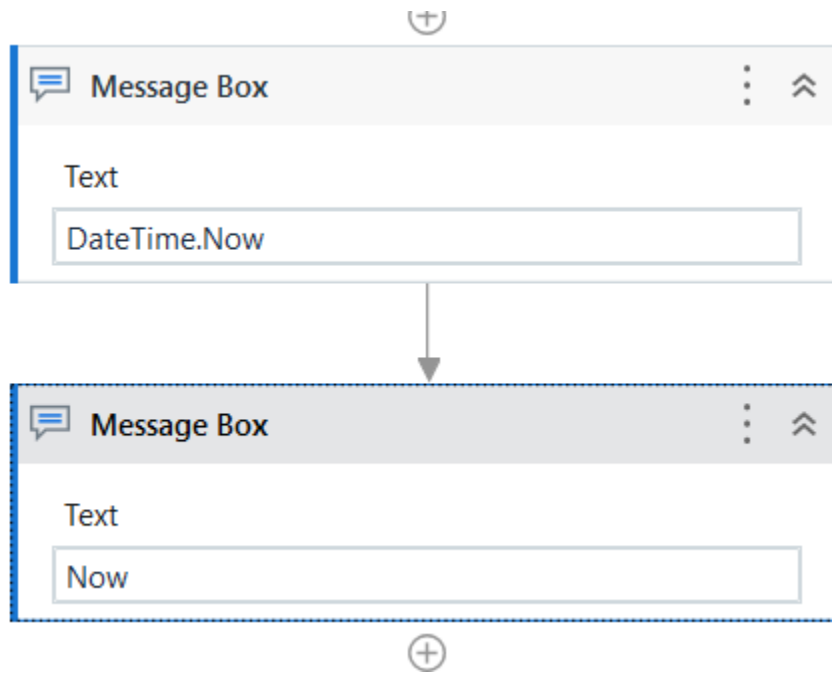
```
my_DT.Columns.Count
```



15. How do you get the current date, add/subtract days from the current date, and add/subtract hours from the current date?

1. To fetch the Current Date, please use the below code snippet :

DateTime.Now or simply we can use Now



Output:



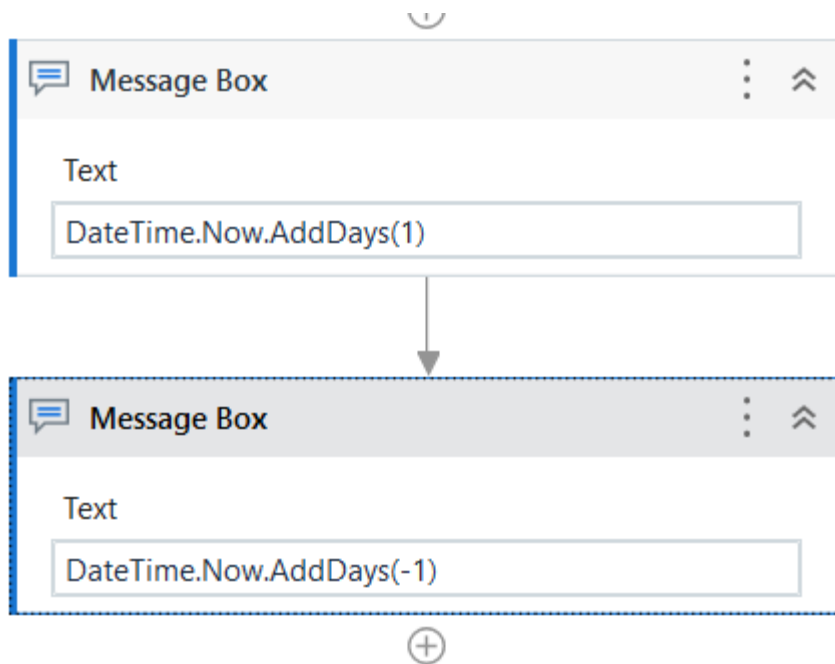
2. To Add/ Subtract days from the current date, please use the below code snippet:

ADD :

```
Datetime.Now.AddDays(1).ToString
```

SUBTRACT:

```
Datetime.Now.AddDays(-1).ToString
```



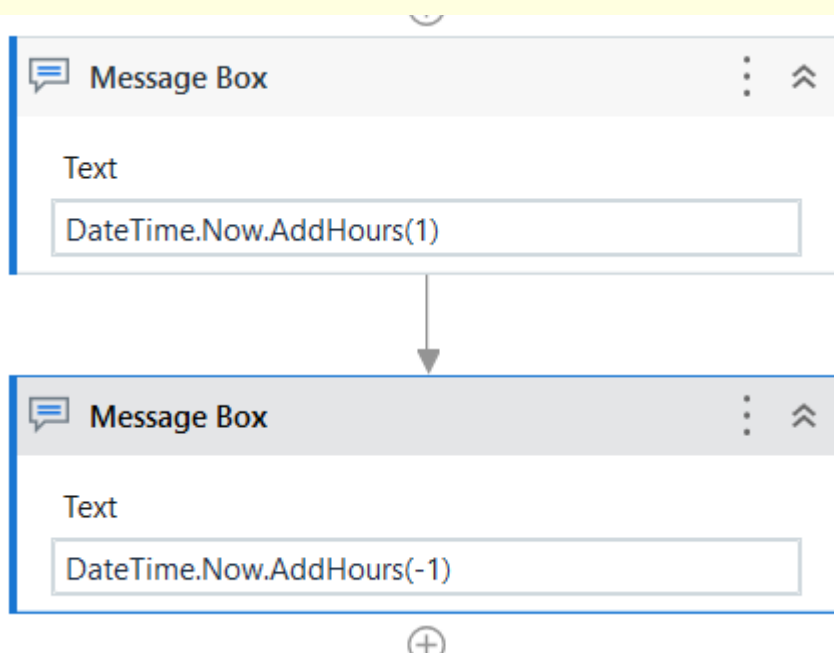
3. Add/ Subtract hours from the current date, please use the below code snippet:

ADD :

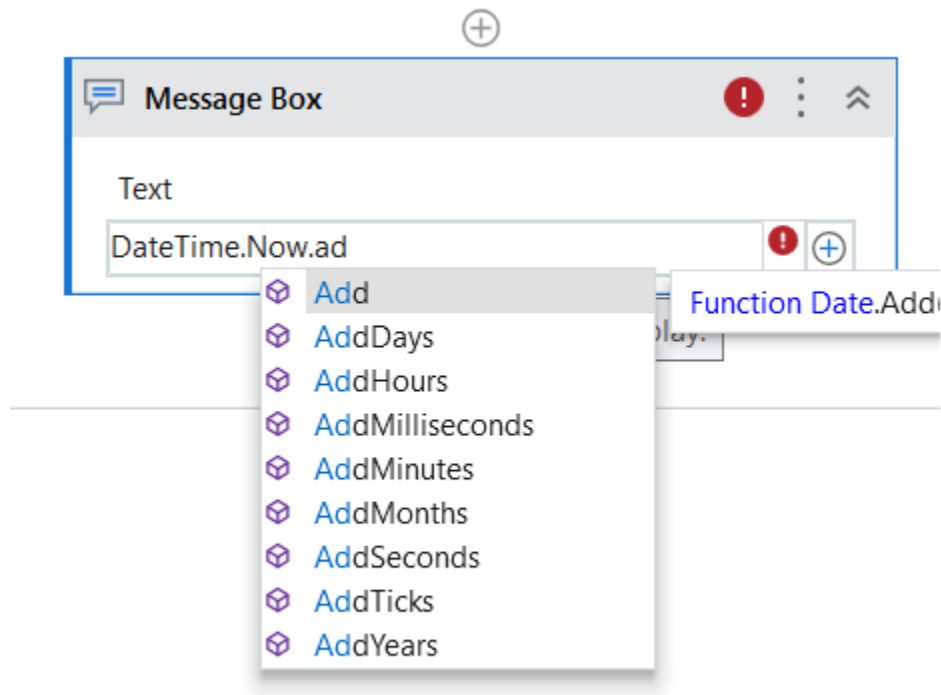
`Datetime.Now.AddHours(1).ToString`

SUBTRACT:

`Datetime.Now.AddHours(-1).ToString`



Similarly, it can be done for years and months.



16. How to get all the files from a given folder?

We can use the below code to get the list of files in a given folder...

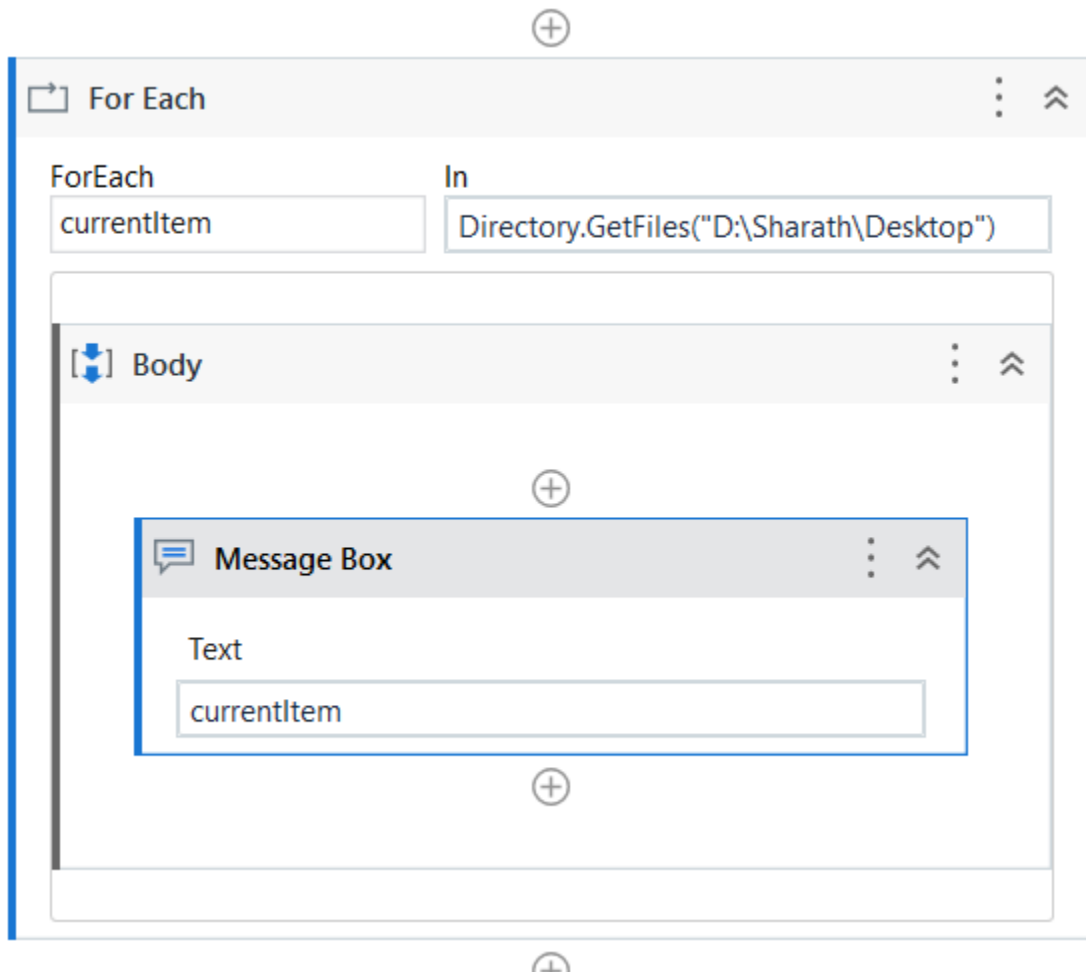
```
Directory.GetFiles("ourFolderPath")
```

Example:

```
Directory.GetFiles("D:\Sharath\Desktop")
```

The above will give you an array of strings as output which, can contain all the file names which are available in that folder.

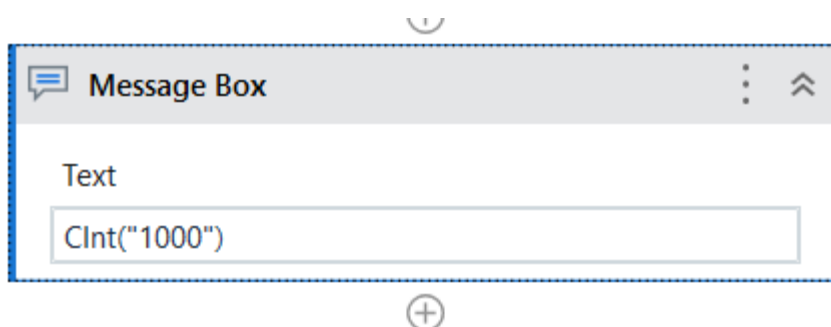
And if we want to display those on the screen, we can use the "For Each" activity and a message box along it.



17. What is the use of CInt?

CInt is one of the very frequently used Data Conversion function

It has the ability to convert from a variety of types (including String, Double, and others) to Integer(Int32) types. The original data for instance, if it was double or it was a string like "1000," an Int32 numeric value 1000 would be produced.



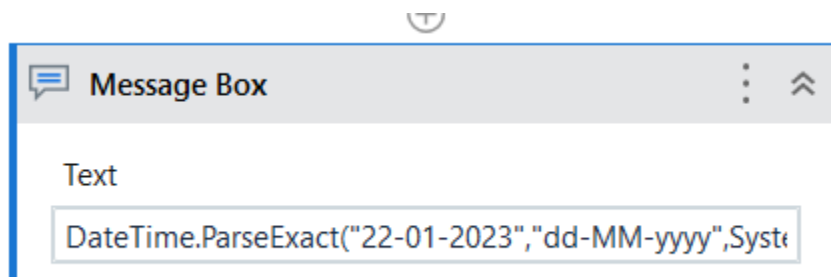
Additional Resource: [Click here](#)

18. Can you please convert the below date which is in String Type to DateTime Type please?

Input: "22-01-2023" (String Type)

Code :

```
DateTime.ParseExact("22-01-2023","dd-MM-yyyy",System.Globalization.CultureInfo.InvariantCulture).ToString("dd-MM-yyyy")
```



The above code does the required work.

Output: 22-01-2023 (DateTime Type)

Though the output remains the same visually, this output will be used for comparisons.

Note: You don't have to mug up the code, you can just remember that the ParseExact function of the DateTime class is used in this kind of situation :)

19. How to find Common/Uncommon values between two lists?

Lists in programming are commonly used to store the collection of items such as String, Int, and so many data types.

We might sometimes need to find the common/uncommon items between the two *Lists* or two *Arrays*.

Let us see how to implement it!!!

Common Values

```
list_1.Intersect(list_2)
```

UnCommon Values

list_1.Except(list_2)

Note:

Replace list_1 and list_2 with your appropriate lists

Example

Implementation using UiPath :

Let us implement a workflow that takes two sample lists and displays the common and uncommon values.

Step 1: Drag the “Assign” activity into the designer panel and initialize list 1 with some sample data as shown below.

```
list_1 = new List(Of Int32)(New Int32(){1, 3, 4, 6, 7})
```

Step 2: Drag another “Assign” activity into the designer panel and initialize list 2 with some sample data as shown below.

```
list_2 = new List(Of Int32)(New Int32(){1, 2, 4, 5})
```

Step 3: Drag the “For Each” activity into the designer panel and supply the below-mentioned code into it and use “Message Box” to display the Common values between two lists

```
list_1.Intersect(list_2)
```

Step 4: Drag the “For Each” activity into the designer panel and supply the below-mentioned code into it and use “Message Box” to display the Uncommon values between two lists

```
list_1.Except(list_2)
```

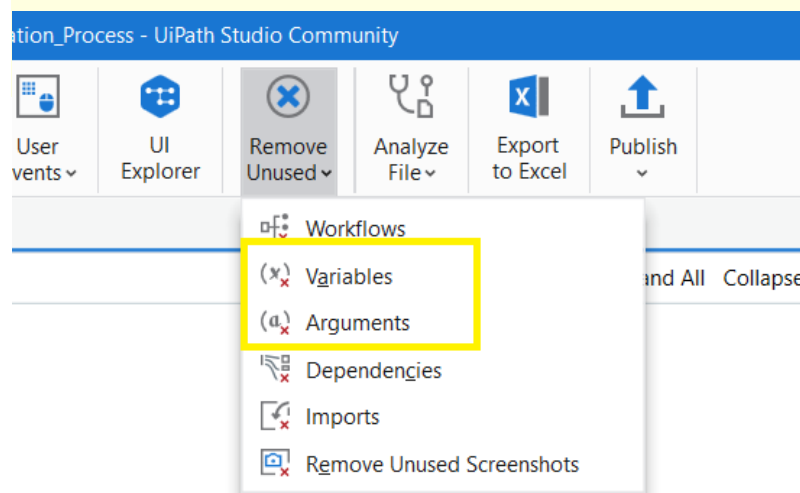
Step 4: Finally, run the project!!!

20. What are the benefits of ReFramework ?

- **Reusability:** It works with any kind of process and is independent of data source (i.e QueueItems, Excel files, Database, PDF, emails, and JSON response).
- **Exception Mechanism & Retry Facility:** It helps us to capture the exception that occurred in transaction processing and allows us to re-execute the transaction.
- **Logging:** It Generates logs at every transaction level, which can help us in auditing the process
- **Config File:** It enables us to maintain our frequently changing values i.e. URLs, File paths e.t.c in a single place, that the process will actually use while executing.

21. If in a project, you have a lot of unused variables and arguments, Is it possible to remove them all at once? If YES, then how?

In UiPath Studio, we have an option called, Remove unused, using which we can remove any of the displayed components like variables, arguments, dependencies, etc by just simply clicking on the required selection



22. Why do we always use Excel as a configuration file in ReFramework? Can't we use .txt or .csv or .json files instead of it?

We can actually use any of the above-mentioned file types as a configuration file, but we prefer an excel file because of its tabular form, it's considered to be more readable and easy to edit tool among all the above-mentioned types.

23. What is the difference between For Each, While, and a Do While activity?

Let's first understand the meaning of a loop:

In computer programming, a loop can be defined as a sequence of instructions or statements that are continuously being repeated until a certain condition is reached.

The above can be achieved in UiPath Studio by using the following activities:

1. For Each Activity
2. While Activity
3. Do While Activity

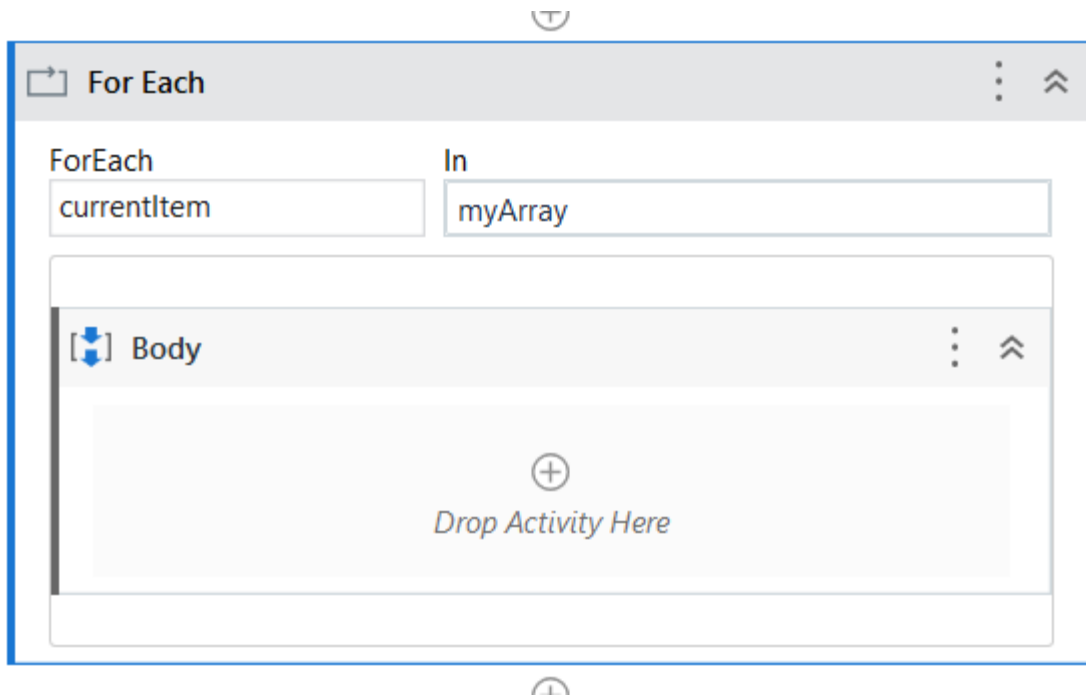
But the main frustration comes when we don't know when to use which activity, right?

No worries, let's dissect them a bit.

For Each Activity

Use this when you are sure about the number of iterations you need to run, here the input can be an array, list, or any enumerable.

Example: When we have a basket full of oranges(Here basket means array or list), we take each one out and check for its quality and sell it if it's good or throw it if it's spoiled (Here each orange refers to each element in the array or list)

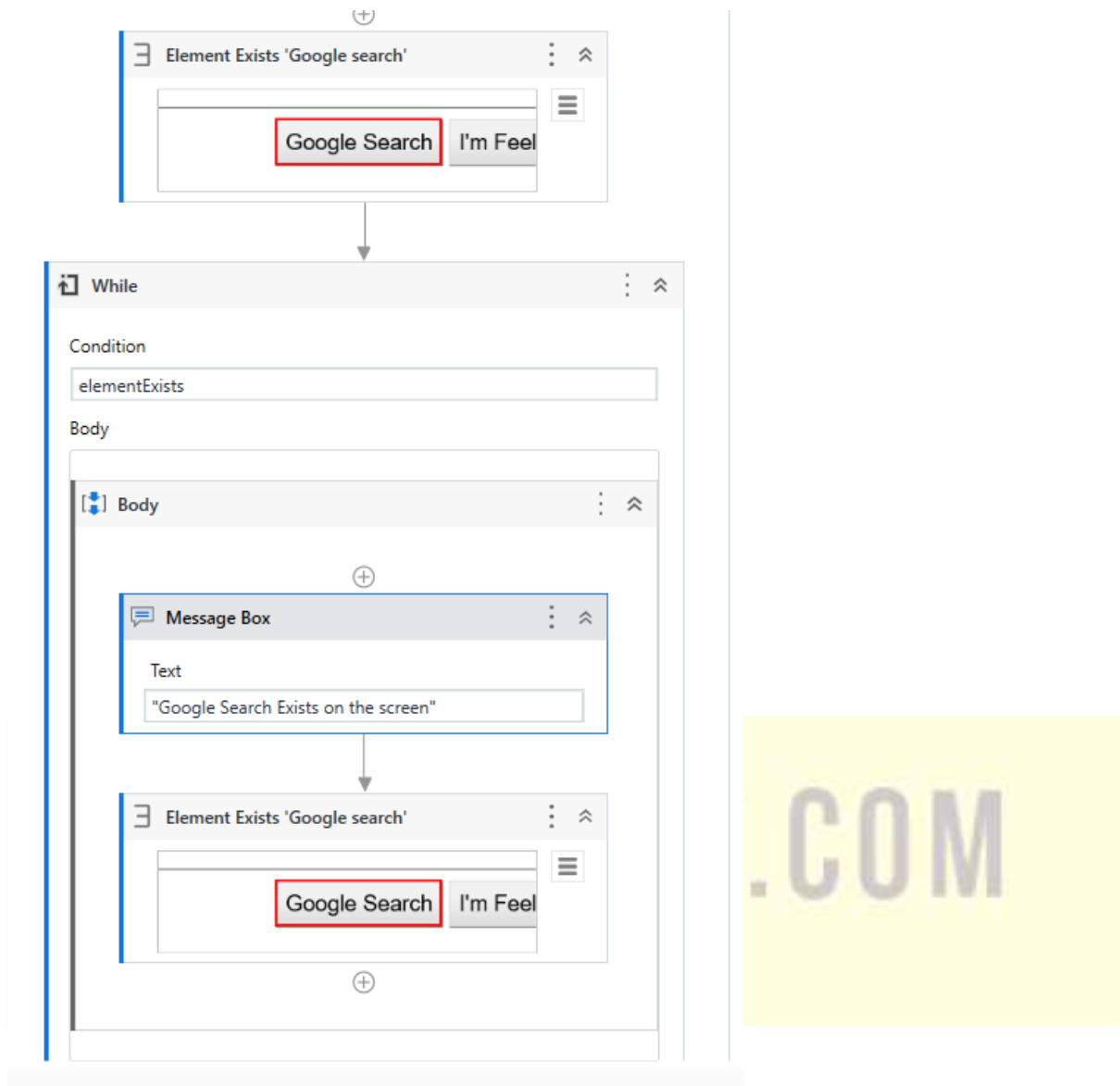


While Activity

Use this when you are not sure about the number of iterations you need to run and the condition on which the loop should be checked changes based on what you do inside the loop.

Example: As long as the search button of a web app exists on the screen, the While Activity will keep displaying the Message - "Google Search Exists on the screen" on the screen.

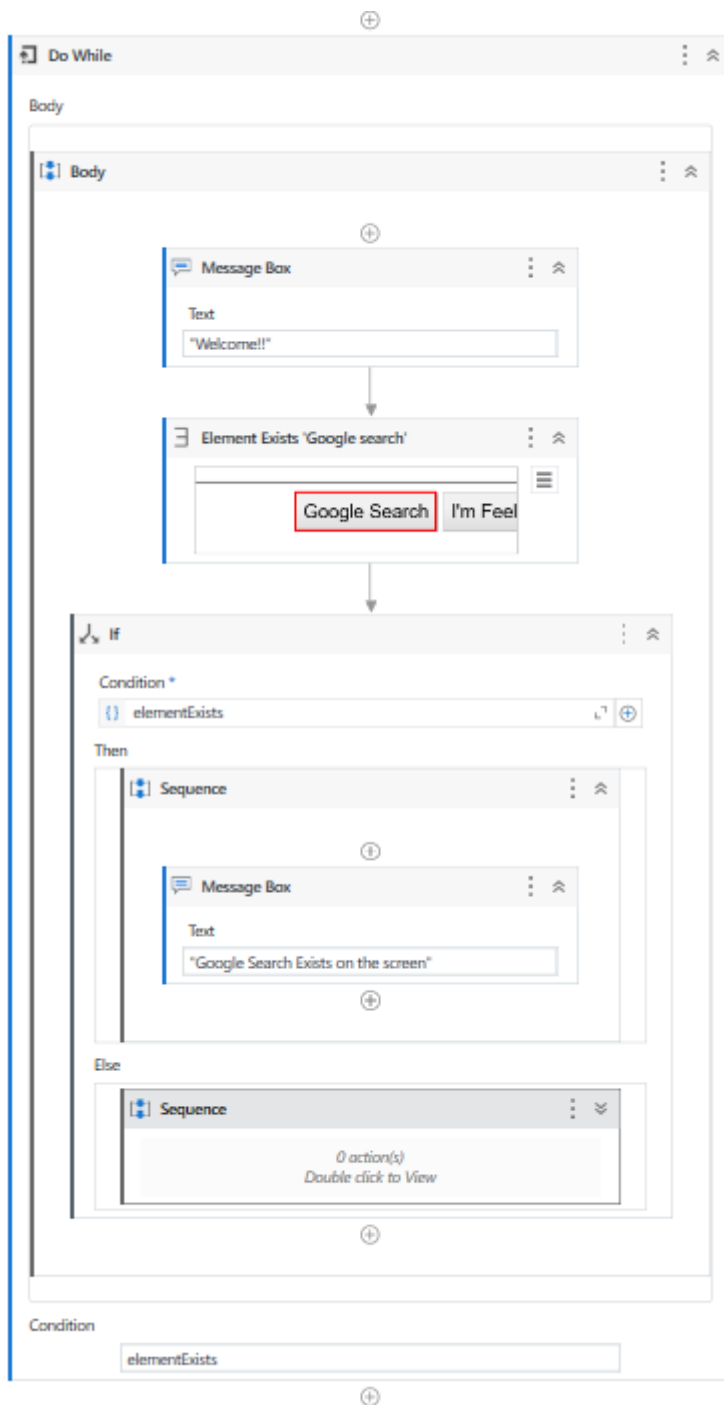
But once you close the browser, it will fail and terminate the loop.



Do-While Activity

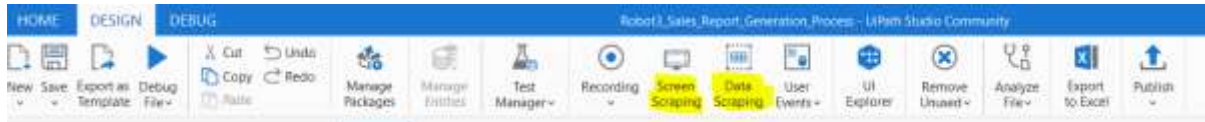
Use this when you want to run something at-least once and based on the conditions run it further till the condition fails.

Example: When you want a "Welcome" Message to be displayed on the screen irrespective of google search button exists or not, and then search for the google search button then we use the Do While Activity



There are a lot of examples and applications available for these activities and each one should be used accordingly.

24. What is the difference between Screen scraping and Data scraping?



Screen Scraping: This functionality is used to get a single text value from the screen.

Data Scraping: This is a very helpful functionality when we are trying the scrap data of type tabular form from a browser, application, or document.

25. What types of exceptions will be retried in UiPath?

There are two types of Exceptions in UiPath

1. **Business Exception**
2. **System Exception**

1. A **Business exception** can be defined as a user-defined exception, it is explicitly thrown by the process when certain criteria defined for the process are not met
i.e. If the phone number contains any alphabet in it, the Provided date is out of the required date range.

Retrying the transaction does not solve the issue, so we basically notify the user about this error.

2. A **System Exception** can be defined as unknown exceptions which are generated by the end applications (which are automated) or slow network issues
i.e., Application not responding, while connecting to the database, while performing string manipulations.

These types of exceptions have a chance of being solved by retrying the transaction.

So, only System exceptions are retried in UiPath.

26. What is a Nuget Package?

NuGet (pronounced "New Get") is a package manager designed to enable developers to share reusable code.

Put simply, a NuGet package is a single ZIP file with the .nupkg extension that contains compiled code (DLLs), other files related to that code, and a descriptive manifest that includes information like the package's version number.

UiPath accepts the code in the form of a Nuget package. When you publish a project to the orchestrator or to the local drive. It is actually stored as a Nuget Package.

Even the Custom activity that we create is actually packaged as a NuGet package.

27. What is a reusable component in UiPath?

Any Workflow which can be used at different places in a project.

Ex: Login Module specific to an application can be re-used and the module can be shared with the team for use rather than building the workflow from scratch.

A reusable component can be a single XAML or a library.

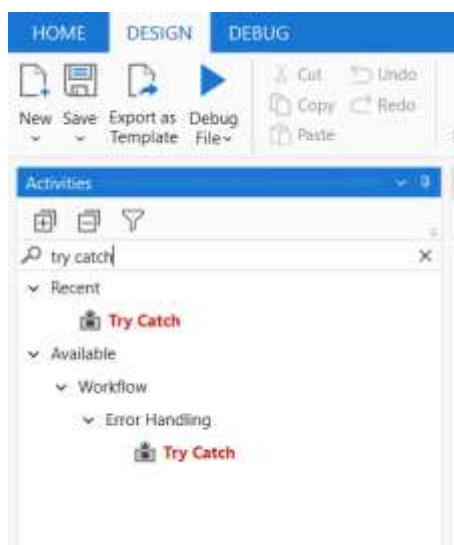
This actually helps in rapid development as we will have the modules already ready with us when starting up a project.

And also it is a good practice to create smaller modules while managing a bigger or more complex project.

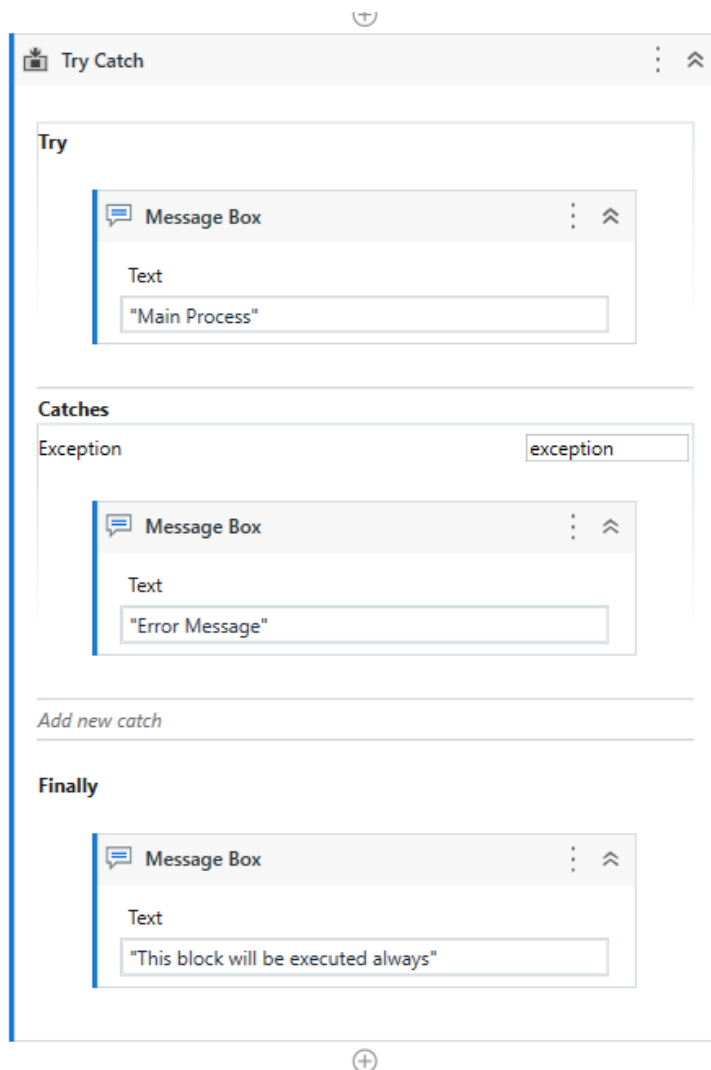
Additional Reference: [How to create a Library in UiPath?](#)

28. What is the purpose of the Try-Catch activity in UiPath?

The try Catch function in UiPath is similar to any other Try Catch implementations in other Programming languages.



Whenever we surround any activity or workflow with Try Catch, any exception that occurred inside it goes to the catch block and logic inside the catch block gets executed.



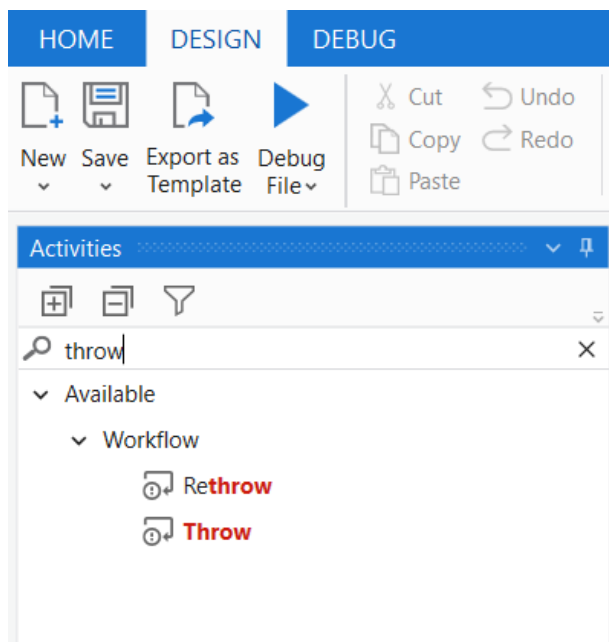
As we can see in the above screenshot:

Try Block is the place where we add our activities, which are to be executed.

And if there arises an exception while executing them, the Catch Block will be executed

And there is another block which we can see, the Finally block - It will be executed always (Irrespective of whether the error occurs or not)

29. What is the difference between throw and rethrow?



The “**Throw**” activity in UiPath is to generate your own exceptions like an invalid mobile number or when the required application is not responding. They can be a system or business exception.

The “**Rethrow**” activity in UiPath takes an existing exception that has been encountered and regenerates it at a higher level.

This is useful mainly in a situation where you don't want to throw an exception immediately but throw it later after performing any additional steps which might be required and then throw it.

30. Can you please name a few of the exceptions that you have faced during your automation?

Based on the type of automation that we are performing, we might have different exceptions - below are a few of them:

UiPath.Core.SelectorNotFoundException - This is one of the most seen common exceptions when we are working on UI Automation and the elements are not available on the screen during execution.

System.NullReferenceException - This exception/error mostly occurs when we are using a variable or performing any operation on it with no value set to it.

System.IO.FileNotFoundException - This exception occurs when we are trying to access a file that doesn't exist.

System.IndexOutOfRangeException - This Exception occurs when we are trying to access an element in an array, list, or a datatable when it doesn't actually exist.

System.OutOfMemoryException - When data or data sets that reside in memory become so large that the common language runtime is unable to allocate enough contiguous memory for them, an OutOfMemoryException exception results.

System.InvalidCastException - An InvalidCastException exception is thrown when the conversion of an instance of one type to another type is not supported. For example, attempting to convert a Char value to a DateTime value throws an InvalidCastException exception.

31. How can we retrieve file name along with extension from the file's full path?

Suppose we the following path with us:

"C:\Users\User\Desktop\Sharath\RPA UiPath.txt"

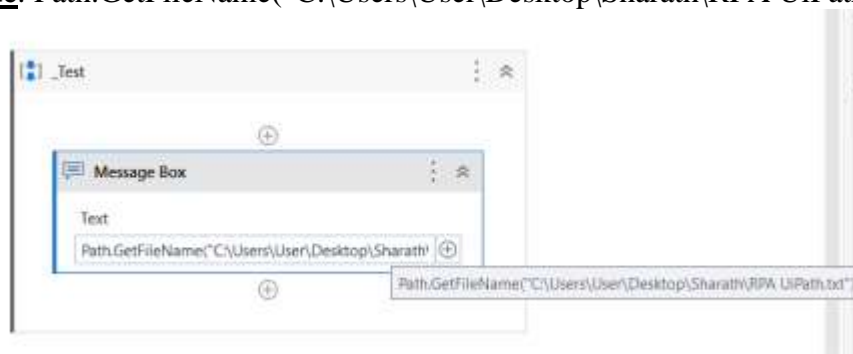
System.IO.Path: This is an important class in .NET - It provides built-in methods.

It helps when handling file paths. It is part of System.IO.

We can use the below code get the filename

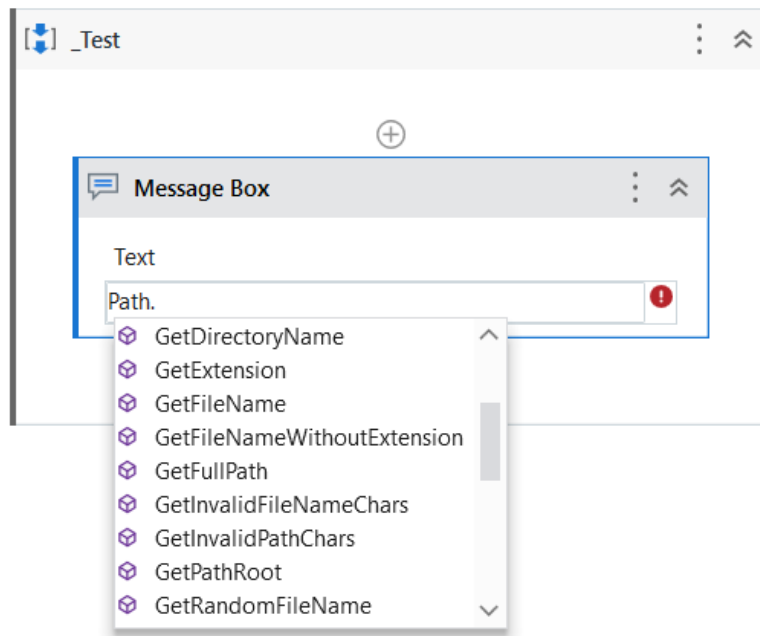
Input: ("C:\Users\User\Desktop\Sharath\RPA UiPath.txt")

Code: Path.GetFileName("C:\Users\User\Desktop\Sharath\RPA UiPath.txt")



Output: RPA UiPath.txt

There are many other options available to us



Important Methods and theirs uses:

The following list provide a sampling of the methods available in the Path class:

ChangeExtension: Allows you to change the file extension of a path string.

Combines: Allows you to combine two path strings into one.

GetDirectoryName: Returns the directory information included in a path string.

GetExtension: Returns the extension included in a path string.

GetFileName: Returns the file name and extension of a path string.

GetFileNameWithoutExtension: Returns the file name without the extension for a path string.

GetFullPath: Returns the absolute path for a path string.

GetInvalidFileNameChars: Returns a character array containing the characters not allowed in file names.

GetPathRoot: Returns the root directory information for a path string.

GetRandomFileName: Returns a random file or folder name.

GetTempFileName: A uniquely named, zero-byte temporary file is created with the full path returned.

GetTempPath: The path to the system's temporary directory is returned.

HasExtension: Determines if a path string contains an extension (true) or not (false).

IsPathRooted: Gets a value indicating whether the specified path string contains absolute or relative path information.

32. How to Split a string in UiPath?

Sometimes we might want to break down a string datatype value into an array of substrings based on some separator.

A separator can be a space, a comma, a newLine e.t.c

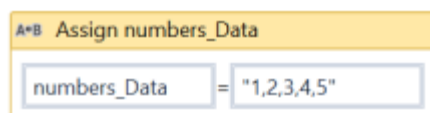
Implementation using UiPath :

Let's develop a project which takes a string value consisting of numbers separator by comma and displays the values.

Step 1:

Drag "Assign" activity into the designer panel and initialize the string variable with some sample data as shown below.

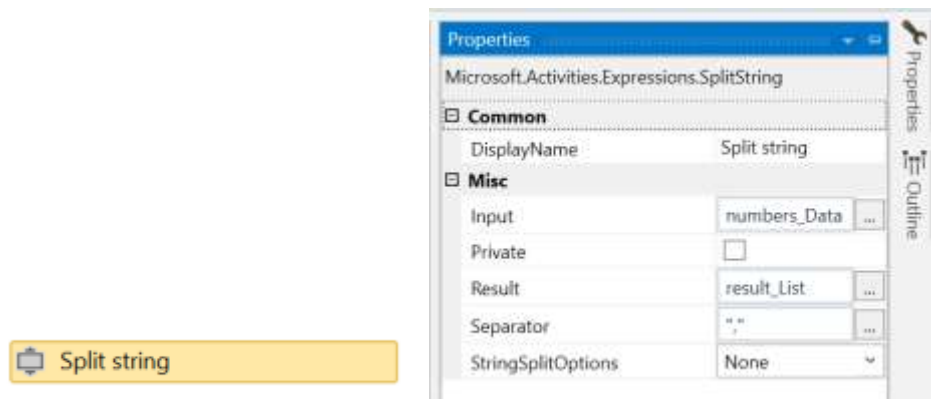
numbers_Data = "1,2,3,4,5"



Step 2:

Drag "Split String" activity into the designer panel and supply the below-mentioned parameters.

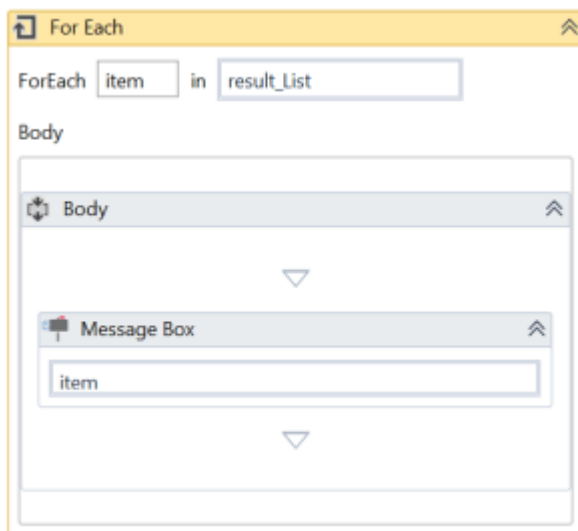
Input: numbers_Data
Result: result_List (Array of strings)
Separator: “,”



Step 3:

Drag “**For Each**” activity into the designer panel and supply the above-created list variable to it.

Then, drag “**Message Box**” activity to display the values available in the list variable.



Step 4:

Finally, execute the project to display all the values available in the list on by one!!!

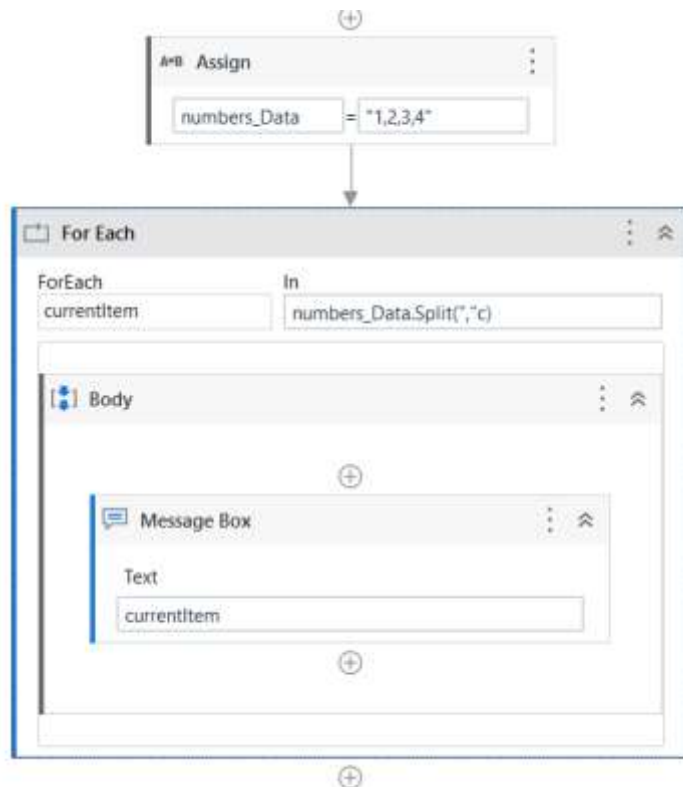


And another way to do the same would be by using the below piece of code:

If the input is **numbers_Data** = "1,2,3,4,5"

Code : `numbers_Data.Split(",")` i.e. Here the delimiter is comma

Output: Array of Strings



33. What are the different approaches to remove new lines available in a text string.

Let's look at different ways of doing it:

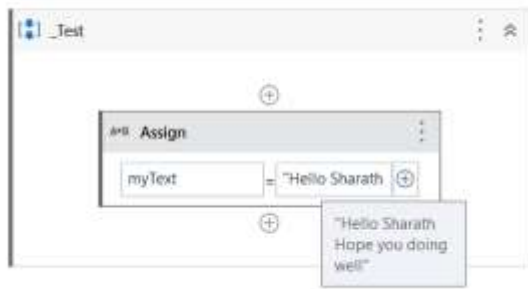
Solution 1:

If we have the input string as:

Hello Sharath

Hope you are doing

well

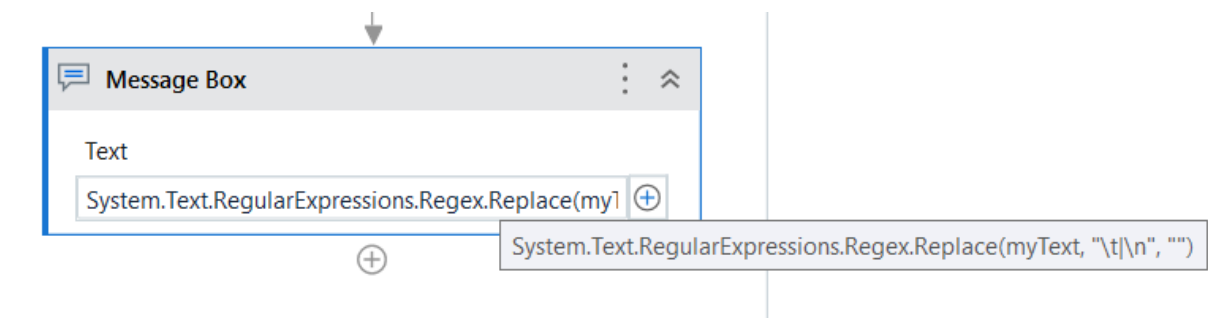


Let' write the code to handle it:

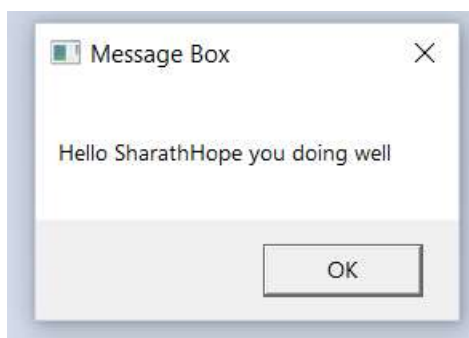
```
System.Text.RegularExpressions.Regex.Replace(myText, "\t|\n", "")
```

The `\n` symbol means literally *new line*. This will go to the start of the next new line.

The `\t` symbol means *add a tab* (which is usually 4 spaces but can easily be 2 or 8 depending on the context).



Output:



Solution 2:

Code: `myText.Replace(Environment.newLine,"")`

Solution 3:

Code: `myText.Replace(vblf,"")`

34. How can you get unique values from a specific column from a DataTable in UiPath?

There are different ways to do it, let's look at a few of them:

Solution 1:

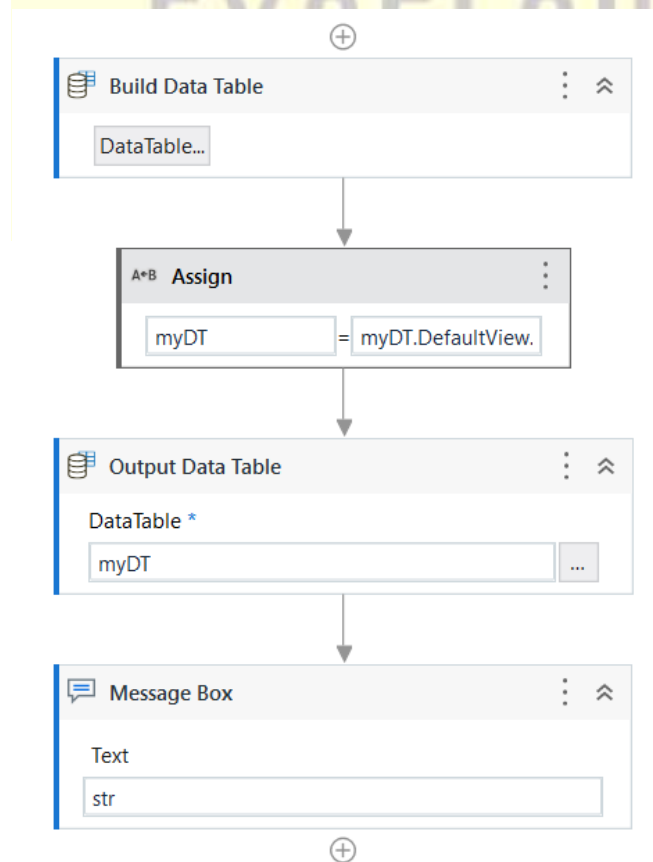
`myDT.DefaultView.ToTable(true, "Name")`

Where,

myDT is our DataTable

"Name" is our Column name for which we want unique values

Let's have a look at how it can be implemented in UiPath:



Solution 2:

We can use the below LINQ query to achieve it, but it will be a bit complex way compare to the above

```
myDT = myDT.AsEnumerable().GroupBy(Function(i) i.Field(Of String)("columnWithDuplicates")).Select(Function(g) g.First).CopyToDataTable
```

Note:

1. Useful when we are removing duplicates with respect to some "Column" name
2. Simply replace the "columnWithDuplicates" with your required column name

35. Can we rename DataTable Columns programmatically in UiPath? If yes then how?

Yes, it's possible.

Let us see how to do it!!!

```
dataTable.Columns("old_ColumnName").ColumnName = "new_ColumnName"
```

Note:

1. old_ColumnName is the specific column that you want to rename
2. new_ColumnName is the column name with which you want to rename the above old column name with.

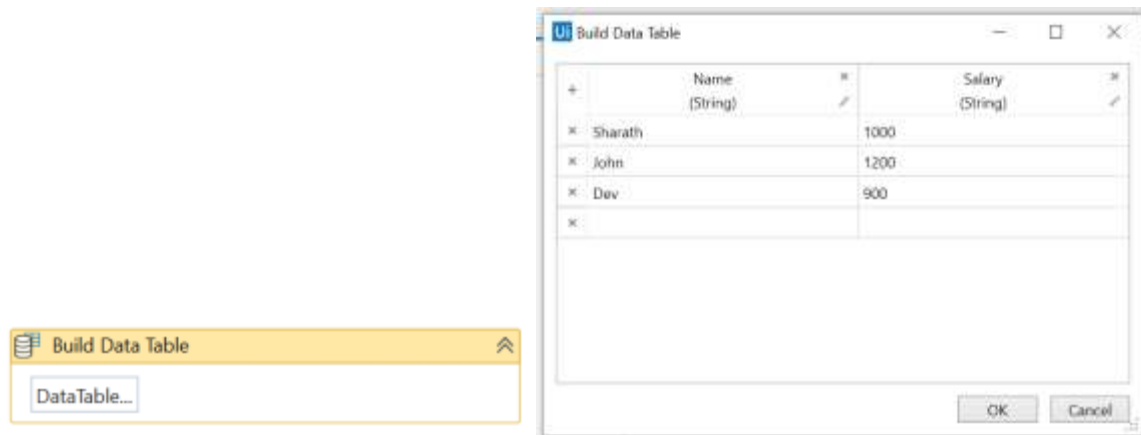
Example

Implementation using UiPath :

Let us implement a workflow which takes a sample DataTable as input and we will try to **rename an existing column** of it from "Name" to "FirstName"

Step 1:

Drag "Build Data Table" activity into the design panel and populate it with some sample data.



Step 2:

Drag "Assign" activity into the design panel and fill it with above-mentioned code.

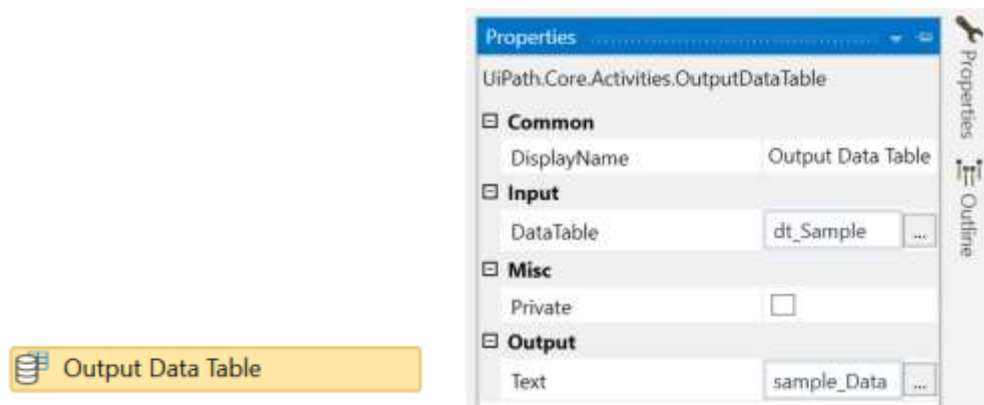
Note:

We are renaming "Name" column of above build DataTable to "FirstName"



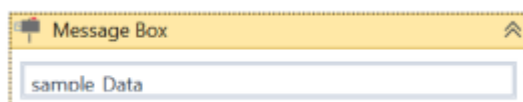
Step 3:

Drag "Output Data Table" activity into the design panel and convert Datatable to String type.



Step 4:

Drag "Message Box" activity into the design panel to display the modified data table.



Step 5:

Finally, let's run the project.



36. Have you ever used Invoke Code Activity? If yes can you please give an example.

As the process becomes a little complex, we might want to write our own code as per the requirement.

More customization is possible in UiPath by using VB.Net.

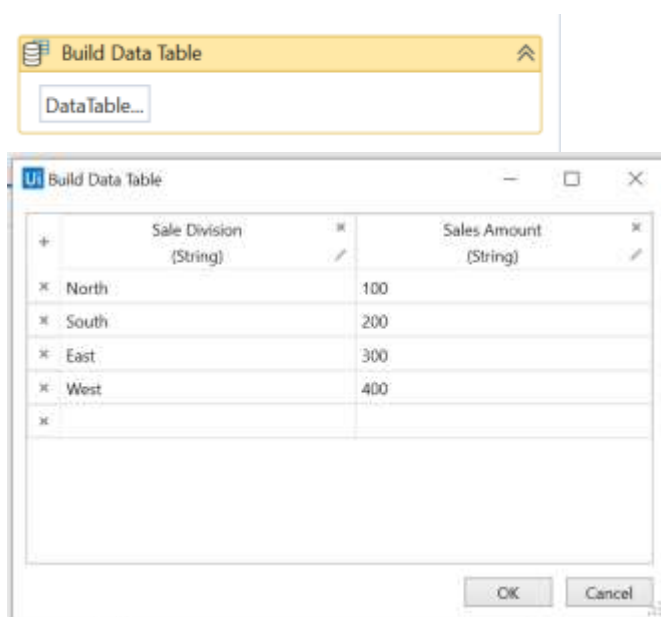
Example

Implementation using UiPath:

Let us implement a workflow which takes a **sample data** table as input and outputs the **SUM of total sales**.

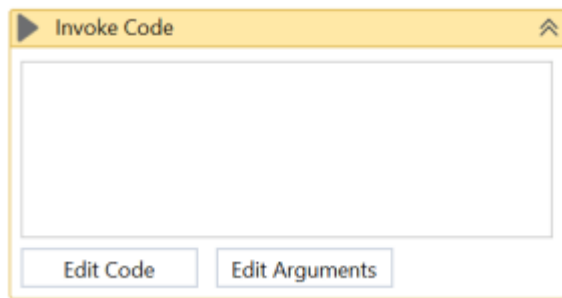
Step 1:

Drag “Build Data Table” activity into the design panel and populate it with sample data.



Step 2:

Drag “Invoke Code” activity into the design panel.

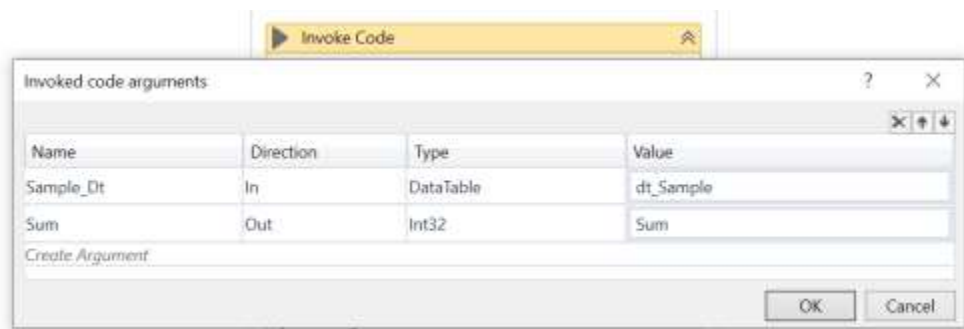
**Step 3:**

In “Invoke Code” activity, click “Edit Arguments” option to pass the required parameters as below.

Note:

Sample_DT is our DataTable (IN Argument)

Sum is the summation result (OUT Argument)

**Step 4:**

In “Invoke Code” activity, click “Code” option to write the execution code.

Note:

Below code is used to count the total sales of all the divisions

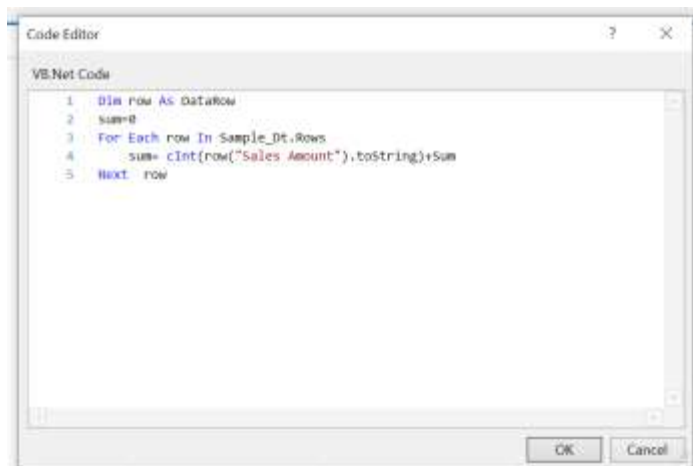
Dim row As DataRow

sum=0

For Each row In Sample_Dt.Rows

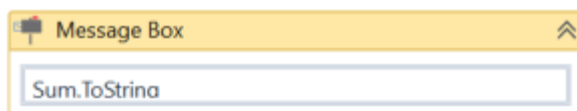
sum= clnt(row("Sales Amount").toString)+Sum

Next row



Step 5:

Drag “**Message Box**” activity into the design panel and pass the “**Sum**” value into it.



Step 6:

Finally, let’s run the project.

Now, we can see total sales value being displayed.



37. What do you mean by “The given key was not present in the dictionary” error?

This error occurs when we try to access a dictionary element using a key that does not exist in it.

In .Net, Dictionary class is a generic collection of keys and values pair of data. The Dictionary class is defined in the System.Collections. A generic namespace is a generic class and can store any data type in a form of keys and values.

Each key must be unique in the collection, so that you can then use that key to access its corresponding value.

Example:

A dictionary looks like

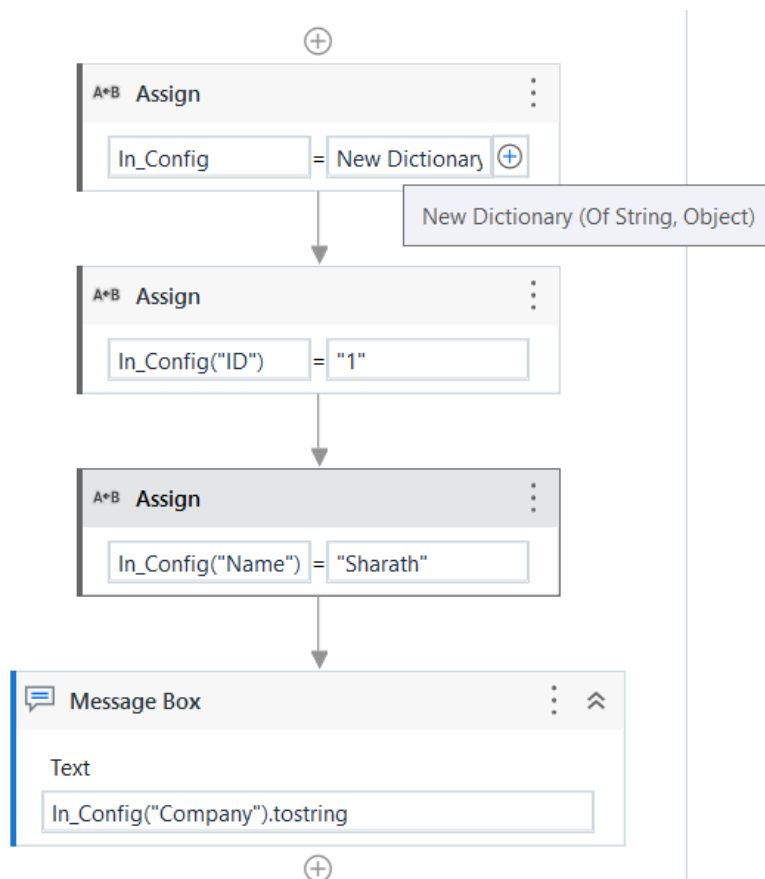
```
my_Dictionary = {ID:"1",Name:"Sharath",Company:"Apple"}
```

When we want the value of ID, we can use my_Dictionary ("A") and you will get the value 1.

Let's implement it in UiPath:

Here we have initialised a dictionary called in_config and added some items to it called ID and Name.

But now we have tried accessing COMPANY name which wasn't added to it, now when the flow is executed, we can expect the mentioned error, please find the below screenshots.



Error:

△ Message Box: The given key 'Company' was not present in the dictionary.

In a scenario where you try to fetch the value of a key which is not available in the dictionary, then you will encounter the above error.

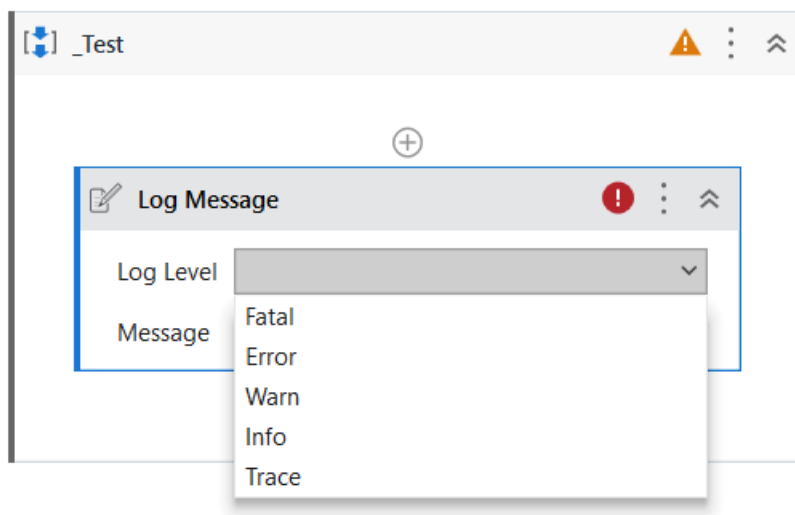
For us here we got the error because we were trying to access value “Apple” by using “Company” which was not added to the dictionary itself.

38. What are the different log types available in Log Message activity in UiPath?

Log Message Activity will actually allow us to log important information at specific stages of the process wherever required.

Depending on the option selected from the **Log Level** drop-down list, the message or the information will be logged which can be later analysed.

It accepts only string as input.



We have the above options available:

Fatal: This is an error that causes a program to abort and may therefore return the user to the operating system. When this happens, data that the program was processing may be lost and terminate prematurely

Error: It is an issue caused by some unexpected activity which has the potential to stop the entire process but most of the times the error allows an app to continue executing, but causes it to produce incorrect results. It is mostly similar to fatal but not as serious as it.

Warn: Warnings reports the unusual findings detected when running a program that may indicate a problem, although compilation can proceed.

Info: This can be helpful when we want to log some information at a specific point of execution which can be useful during auditing in the future.

Trace: This type of logs, stores all the minute details of the process during its execution and this are mostly preferred when we try to debug an issue to find it's root cause.

39. What is the importance of project.json file in UiPath project?

What happens if we delete it?

project.json is an automatically generated file which is created while creating a project in UiPath Studio.

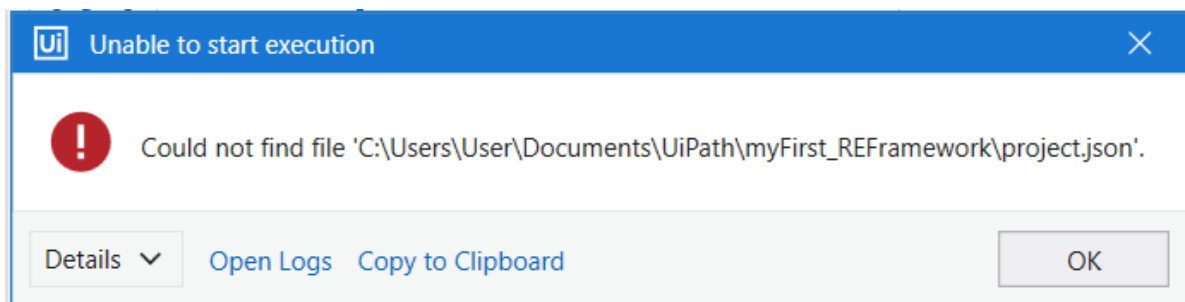
It contains the various details regarding the project being implemented, some of them are

- Title of the project
- Description of the project
- Project Dependencies
- The version of Studio used to create the automation project
- The version used when publishing this project to a feed
- The language set for the process (VisualBasic or CSharp)



If project.json file is deleted, we wouldn't be able to execute the project.

We would be faced with the below error if you try to run the project.



40. What's the need of debugging, can you please also mention the steps you follow? And how is it different from testing?

Debugging, in computer programming, is a process that involves identifying a problem or a bug, isolating the source of the problem and then either correcting the problem or determining a way to work around it.

The final step of debugging is to test the correction or workaround and make sure it works.

The basic steps in debugging are:

1. Recognize that a bug exists.
2. Isolate the source of the bug.
3. Identify the cause of the bug.
4. Determine a fix for the bug.
5. Apply the fix and test it.

Testing vs Debugging

Testing and debugging are important activities during software development and maintenance.

Testing is performed to check if the code contains errors whereas **Debugging** is done to locate and fix these errors.

41. Can you please explain the difference between List, Array and Dictionary?

Use an **Array** when you work with a sequence of elements of same type or need to randomly access an element at a given index (0, 1, 2, ...)

```
new string[]{"value1","value2"}
```


Use a **List** when you are working with a collection of elements of same or different type or need to randomly access an element at a given index (0, 1, 2, ...), In list it is possible to add duplicate records

```
new List<of string>(new string[] { "value1", "value2" })
```

Use a **Dictionary** when you have key/value format and need fast retrieval via key. In dictionary key must be unique. It is not possible to add duplicate key in dictionary. The reason is because a dictionary is a lookup, while a list is an iteration

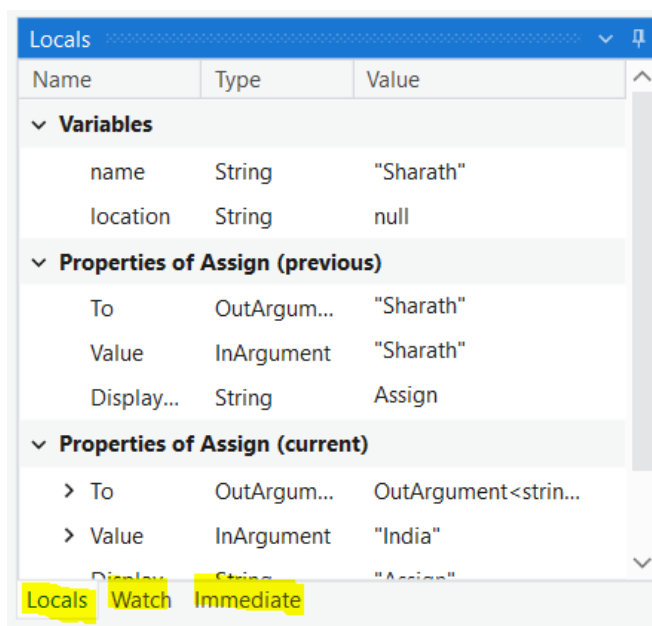
```
New Dictionary<Of String, Object> From({ "ID", "1" }, { "Name",  
"Sharath" }, { "Country", "India" })
```

Which one of this is faster?

Dictionary uses a hash lookup so it's faster, while your list requires walking through the List/Array until it finds the result from beginning to the result each time.

42. What is the difference between Watch Panel and Immediate Panel?

All the below panels are visible only during the debugging state:



Local Panel

It is helpful to understand the current values and data for various variables and arguments and also helps you understand the previous run and current run details.

Watch Panel

can be set to display the values of variables or arguments, and values of user-defined expressions that are executed till that point of time but the only difference here is it helps

you concentrate only on specific things that you need to monitor rather than displaying all the information available like Local panel

Immediate Panel

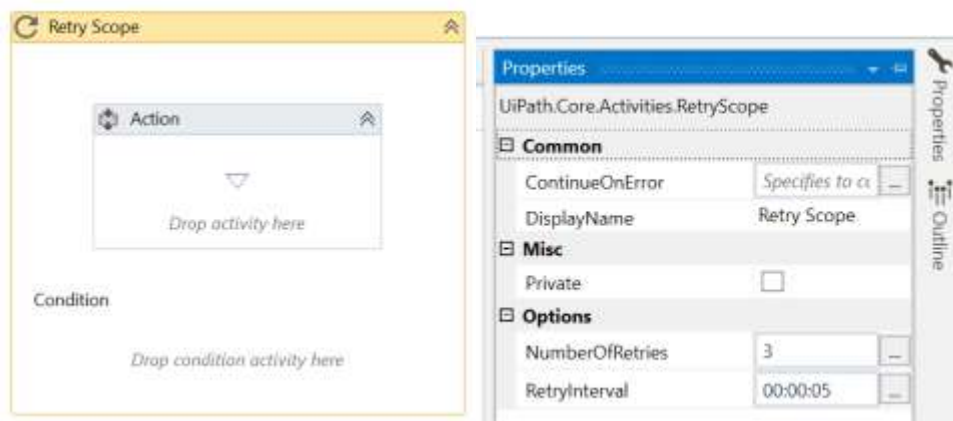
It can be used for inspecting or understanding the data available at a certain point during the debugging state. It can help us understand the various aspects of variables, arguments and expressions. This can be done simply typing the variable or argument name in the Immediate window with any specific method if needed along with it and pressing the Enter button.

43. What are the uses of Retry Scope activity in UiPath?

While automating a business process, the situations where we have to retry a particular failed action or a sequence of failed actions are expected to be there.

“**Retry Scope Activity**” of UiPath can be effective in handling such scenarios.

It retries the expected activities as long as the condition is not met and throws back an error if it fails to do so.



Note:

1. **Action Block** – Here we define our actions that we want to achieve.
2. **Condition Block** – It is the condition based on which we can decide to retry. Only activities which return a boolean result are supported by Condition Block. i.e. Element exists, Image Exists...
3. **NumberOfRetries** – The number of times that the sequence is has be retried.
4. **RetryInterval** – Specifies the amount of time (in seconds) between each retry.

Example

Implementation using UiPath :

Let us implement a workflow which launches an application called UiDemo, then tries to log in to it.

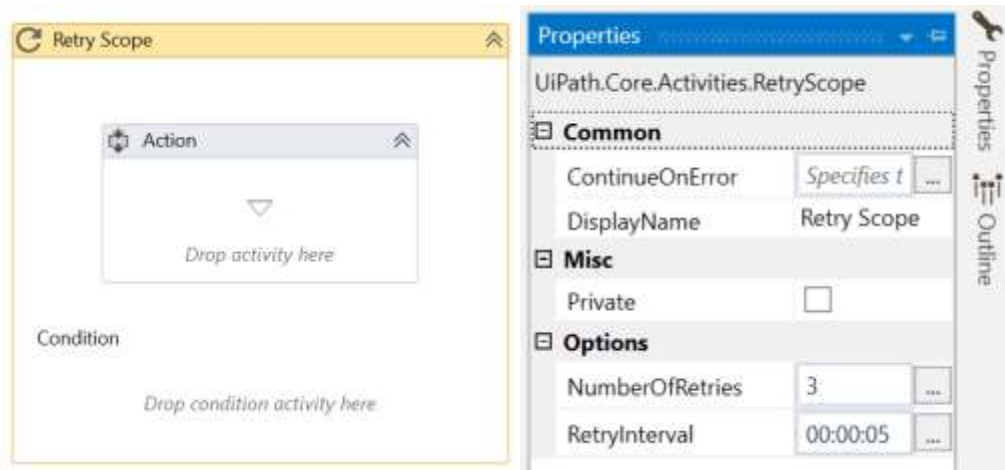
Step 1:

Drag “**Retry Scope**” activity into the design panel and supply the required parameter as shown below

Note:

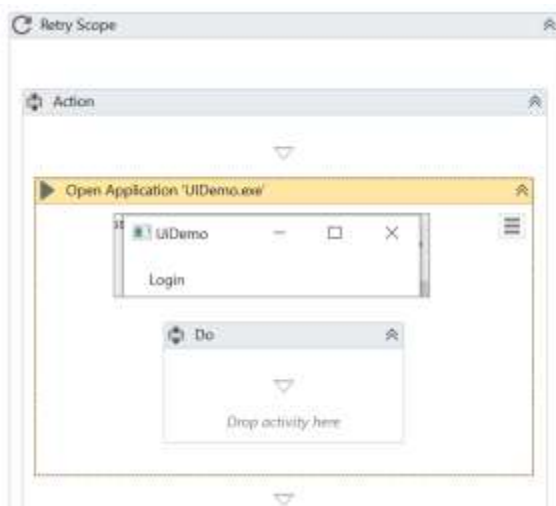
NumberOfRetries is 3, so it will retry 3 times.

RetryInterval is 5 seconds, so it will retry with a gap of 5 seconds between each failure.



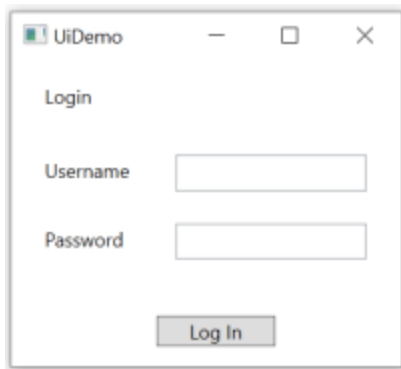
Step 2:

Drag “**Open Application**” activity into the Retry Scope Action Block and try to indicate the Application using indicate on-screen option as shown below.



Step 3:

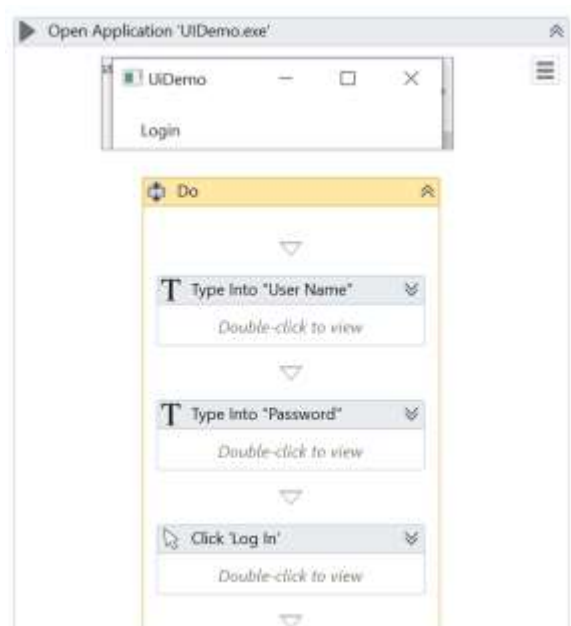
To “**Enter the login details**”, drag Required activities into the Do Block of Open Application activity and indicate the respective elements as shown below.



Note:

UserName: admin

Password: password

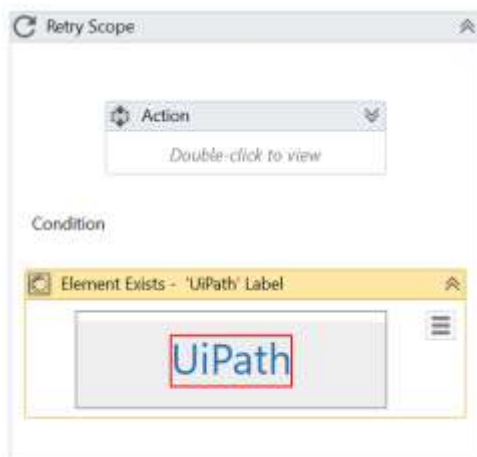


Step 4:

Drag “**Element Exists**” activity into the Retry Scope Condition Block and try to indicate some element in the next window that we expect to appear using indicate on-screen option as shown below.



For now, we will consider the UiPath(Blue colored text) element appearing at the top as our condition!!!



Step 5:

Now when we finally run the process, if we by any chance encounter any error while entering the login data, the sequence of steps will be retired as per our defined commands.

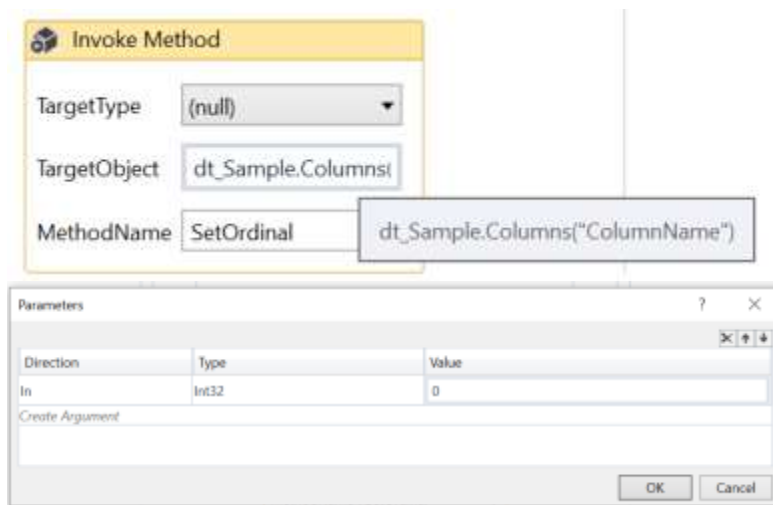
If it still fails after mentioned retries, the appropriate error will be shown!!!

44. How can we programmatically reorder columns in DataTable in UiPath?

Sometimes we might be asked to change the order of the columns in the excel and then process the data.

SetOrdinal method can be used to achieve the above.

Let's see how to use it in the UiPath!!!



Note:

1. **ColumnName** – The name of the column for which we want to change the position.
2. **Parameter** – To which position or index, we want to move the column to (Indexing starts from zero).

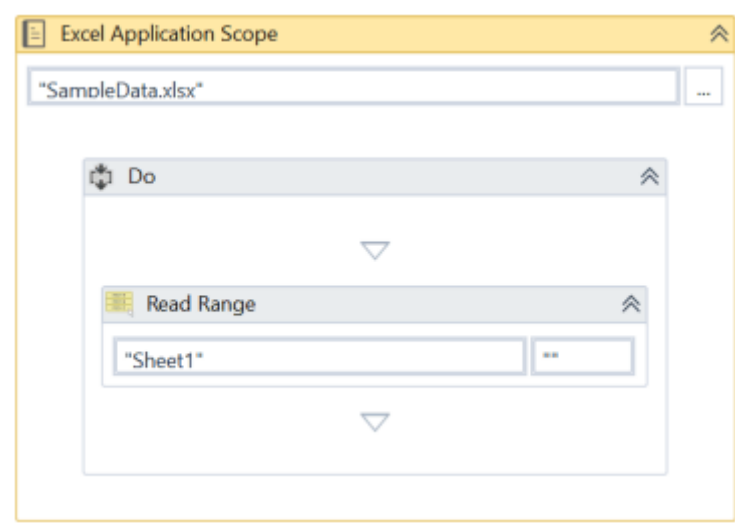
Example

Implementation using UiPath :

Let us implement a workflow which reads an excel file and then we will try to reorder the columns.

Step 1:

Drag “**Excel Application Scope**” and “**Read Range**” activities into the design panel to read the excel file and pass the required parameters.



Step 2:

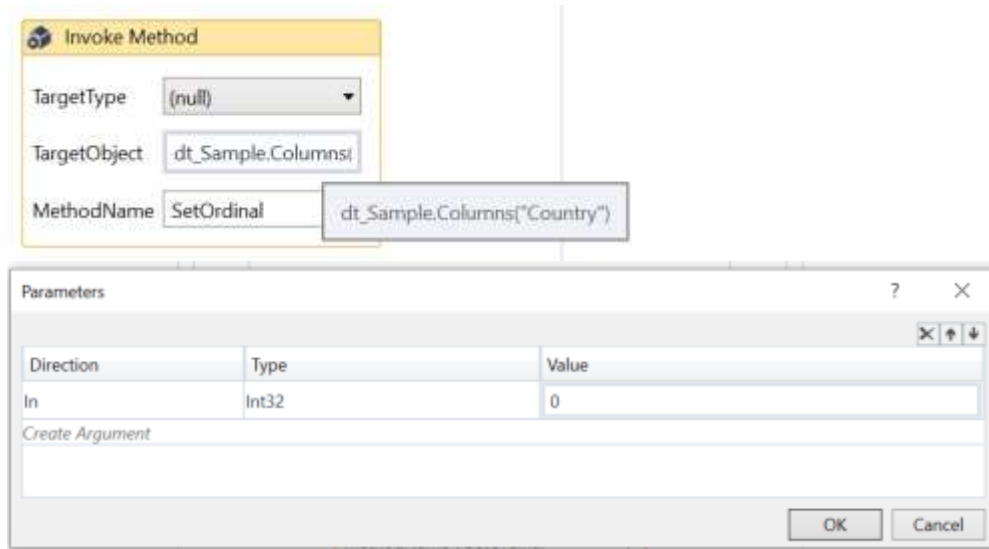
Drag “**Invoke Method**” activity into the design panel and populate it with the below-mentioned code.

Note:

TargetObject – dt_Sample.Columns("Country")

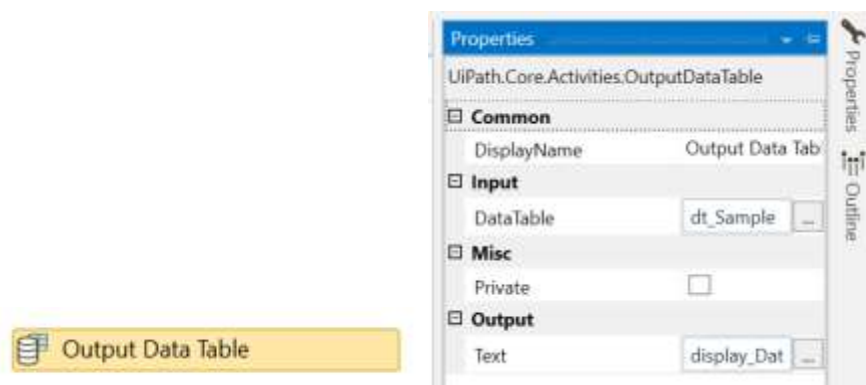
MethodName – SetOrdinal

In Parameter – 0(0 indicates first position ,for our process)



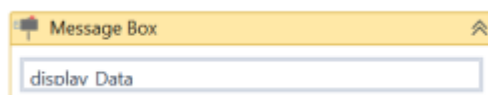
Step 3:

Drag “**Output Data Table**” activity into the design panel and convert Datatable to String type.



Step 4:

Drag “**Message Box**” activity into the design panel to display the modified data table.



Step 5:

Finally, let's run the project.

We can see the modified DataTable with reordered column names!!!



45. Can you please explain about LINQ and its advantages and disadvantages?

LINQ stands for Language Integrated Query and it can be used to programmatically access and manipulate any data from different types of data sources such as Objects(Lists, Arrays, Strings..), SQL, XML, etc. using C# or VB.Net

The LINQ functionality can be achieved by importing **System.Linq** namespace in our applications.

Advantages:

- LINQ provides full type checking at compile-time and supports IntelliSense. This powerful feature helps us to avoid run-time errors.
- LINQ also allows debugging which can be useful while troubleshooting.
- Most of the LINQ queries are reusable.
- LINQ provides powerful filtering, ordering, and grouping capabilities with minimum application code.

Disadvantages:

- If the LINQ query is not well optimized then the performance might degrade.
- Sometimes it's a tedious work to understand advanced LINQ query statements.
- LINQ fails to take the full advantage of database features when compared to SQL queries.

LINQ vs SQL

The main difference between LINQ and SQL is that LINQ is a Microsoft .NET framework component, which adds native data querying capabilities to .NET languages, while SQL is a standard language to store and manage data in RDBMS.

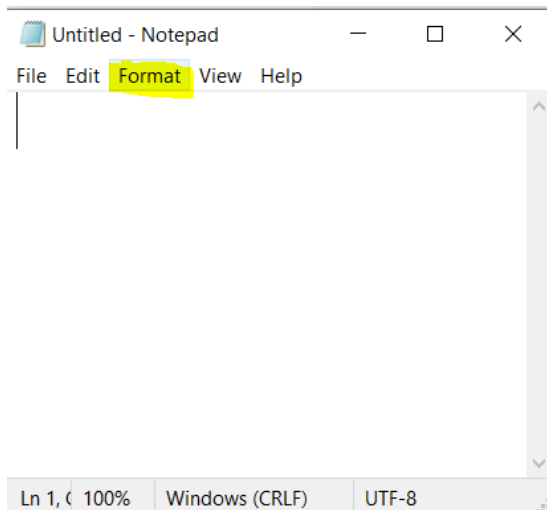
46. What is the use of UI Explorer in UiPath? Uninstalling which package will affect it's availability?

UI Explorer is an advanced tool that enables you to create a custom selector for a specific UI element. It is available as a standalone tool you can download from the

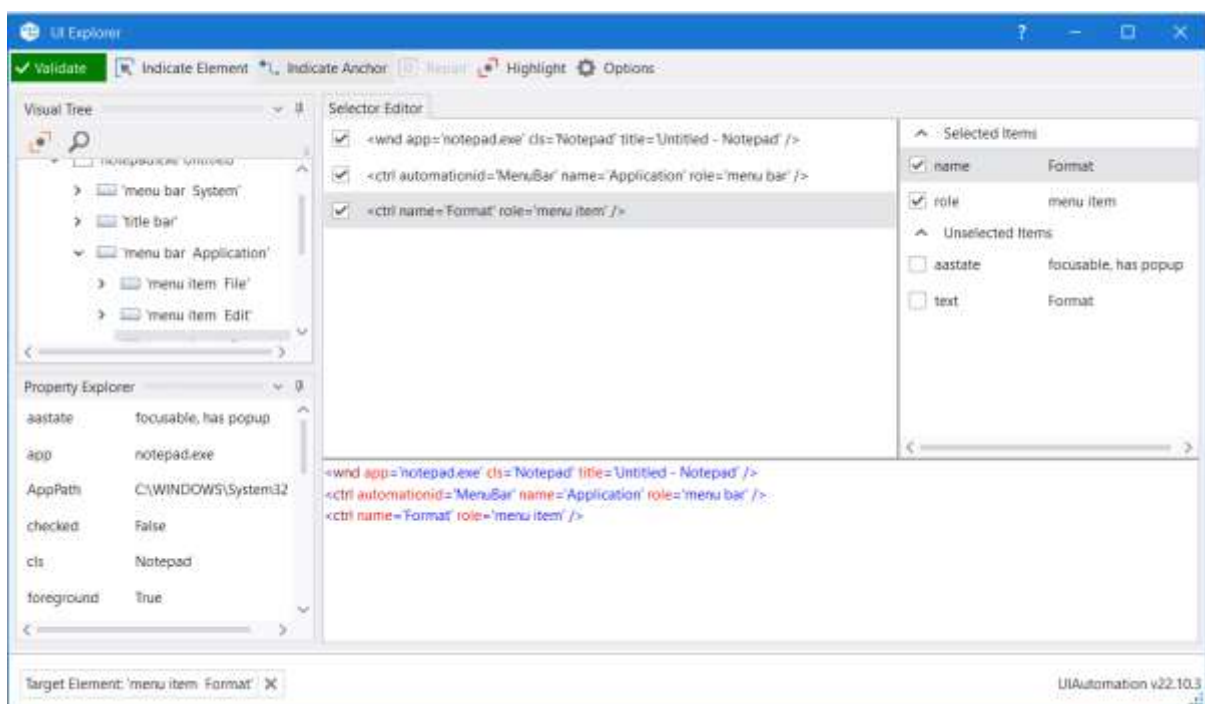
Resource Center in your Automation Cloud instance, or from Studio only if the UiPath.UIAutomation.

Example:

Let's consider we are planning to automate notepad task, and we are required to click on "Format" option



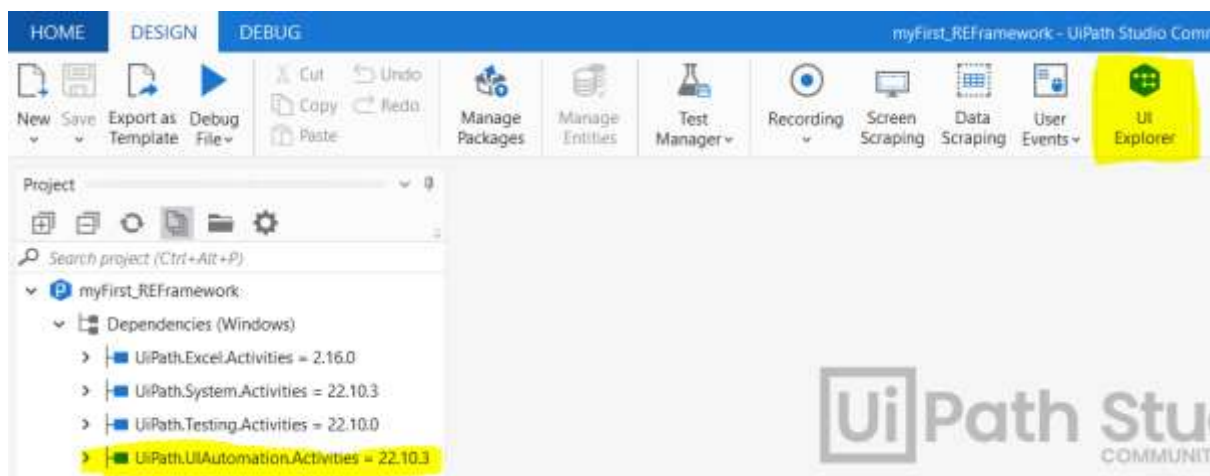
Below is the selector for Notepad.exe app' format button, as per the requirement we can add/remove the attributes.



It basically helps us with fine tuning the selectors while automating a process so that we get more stable selectors which are immune to minor changes at UI level.

UI Explorer deals with UI Activities, so the presence of **UiPath.UIAutomation.Activities** package as a dependency to the project actually

defines the availability or the non-availability of this tool in the UiPath Studio. Once you uninstall **UiPath.UIAutomation.Activities** package, the UI Explorer will not be available to us.



47. Suppose I have a folder full of files, with different formats .i.e .jpeg, .Mp4, .zip and so on... How can I get only .zip files from that folder ?

File management is inevitable in business processes automations.

We might want to copy, move or delete files based on few conditions...!!!

Let's see how to get the specific type of files from a folder

_myList =
Directory.GetFiles(_folderPath,"*.zip",System.IO.SearchOption.AllDirectories)

Note:

1. **_folderPath** is the folder path where you have your files
2. **_myList** will be the variable containing your required files with all the .zip format
3. You can replace **"*.zip"** with your desired extension if wanted.

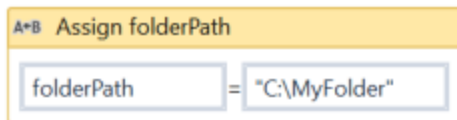
Example

Implementation using UiPath :

Let us implement a workflow which displays the names of particular files(.i.e .zip extension files) from a folder.

Step 1:

Drag **"Assign"** activity into the design panel and populate it with your folder path
example: "C:\MyFolder"



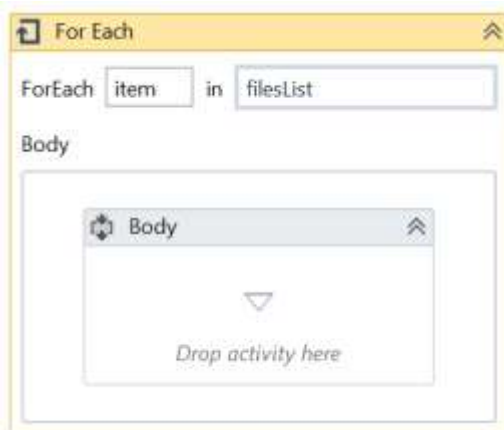
Step 2:

Drag “**Assign**” activity into the design panel and populate it with above-mentioned code example: “*Directory.GetFiles(folderPath, “*.zip”, System.IO.SearchOption.AllDirectories)*”



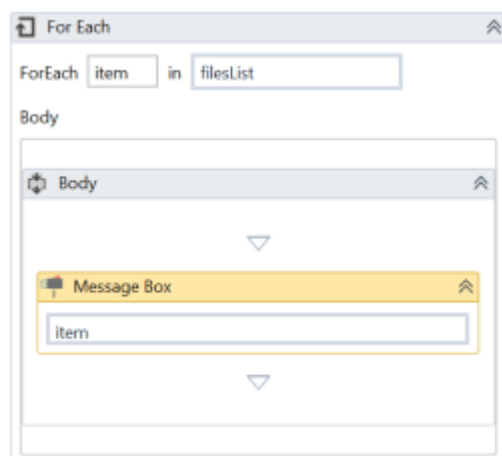
Step 3:

Drag “**For Each**” activity into the design panel and pass the above “**fileList**” variable to it.



Step 4:

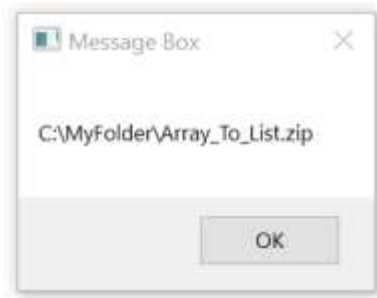
Drag “**Message Box**” activity into the For Each activity and pass the “**item**” value into it.



Step 5:

Finally!!!

when we run it, we can see the file names of .zip extension being displayed.



48. Suppose if I use the below codes:

```
Directory.GetFiles("D:\SharathRaju\user\Documents\testenviroment\","t?st*.xlsx")
```

Which of the following files which be fetched?

1. test123.xlsx
2. test.xlsx
3. ttssttest.xlsx
4. tst.xlsx

Ans:

All the above will be fetched, except tst.xlsx because question mark(?) in the code didn't match with the file name, as all of them satisfies the conditions.

- Asterisk (*) – replaces zero or more characters
- Question mark (?) – replaces a single character

49. Have you ever converted Month number i.e 1,2,3,4... to month name .i.e January, February, March... and vise versa?

>>>> To convert month in number to month in alphabets. we can use GetMonthName function:

System.Globalization.CultureInfo.InvariantCulture.DateTimeFormat.GetMonthName(12)

The above will give us "December"

>>>> To convert month in alphabets to month in number. we can use code snippet:

`DateTime.ParseExact("December", "MMMM", CultureInfo.CurrentCulture).Month`

The above will give us "12"

Note:

Try to understand the functions being used it, we don't have to remember the whole code but should be aware of different functions or methods that can actually help us at least.

50. How do you confirm if a given string is a numeric?

Validations are something that we have to handle, while we are dealing with particular data.

Similarly in automation too, we check for different validations before performing any task.

The below function can be used to check if a string .i.e "1001", "ey2", "sharath" or "999" is numeric or it is not numeric!!!

`_booleanResult = IsNumeric(_input)`

And the output will be a Boolean value.

Note:

1. `_input` is the argument to the `IsNumeric` Function
2. `_booleanResult` returns the true or false value based on the input

51. How can we take a screenshot using UiPath?

The "Take Screenshot" action in UiPath may be used to take a screenshot.

What to do is as follows:

1. The "Take Screenshot" activity may be dropped into the designer panel by dragging it from the "Screen" category of the activities panel.

2. Set the place for the screenshot to be saved in the "Take Screenshot" activity's settings. You may also choose the picture quality and the image file type (such as JPG or PNG).

3. Use the "Selector" attribute to identify the element or window you wish to capture on the screen while taking a screenshot.

Run the automation to complete the task and snap the screenshot. The desired location will be used to store the screenshot.

Note: In UiPath, you can also capture a snapshot using the "Screen Capture" activity. Instead of taking a screenshot of the full screen or just a certain element or window, this activity lets you define the region of the screen that you wish to record.

52. What is the minimum time required for project implementation in RPA?

I have personally worked on projects ranging from a week to 2 months depending on various factors.

Based on the complexity and scale of the project, the minimal amount of time needed for an RPA (Robotic Process Automation) project might vary significantly. While larger, more complex projects may take many months or longer to complete, smaller, simpler tasks could just take a few weeks like one or two including the post live support.

The following variables may affect the minimal amount of time needed for an RPA project:

Project size: A bigger project that has to automate more actions and procedures will often take longer to finish than a smaller project and even the number of approval needed would add up the time.

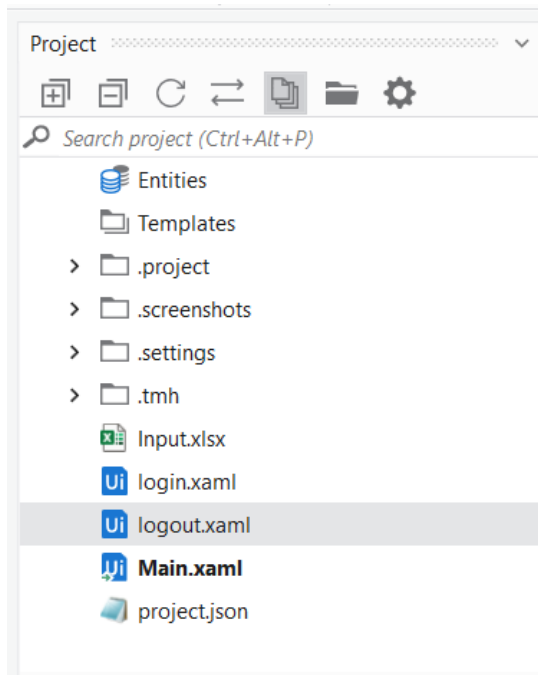
Complexity of the processes and tasks being automated: If the processes and operations being automated are complicated or and doesn't have the application stability would require more efforts, the project may take longer to complete.

Resource accessibility: The project's completion time may be prolonged if the project team is overworked or if securing resources or permissions takes longer than expected. So communication between the groups or teams plays a major role.

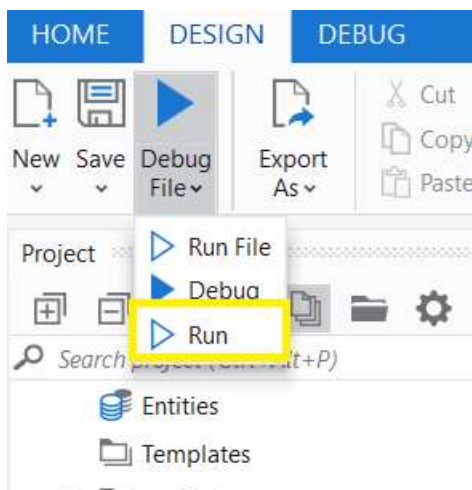
The quality of the automation solution: A poorly planned, designed or implemented automation system fail so it's very important to build stable solutions and this may need more time to create and build automations, which might cause the project's schedule to be extended sometimes.

In order to guarantee that an RPA project is finished within an acceptable amount of time, it is crucial to thoroughly plan and scope it with proper communication.

53. Suppose if I have three XAML files in my project as shown below .i.e. Main.xaml, login.xaml and logout.xaml



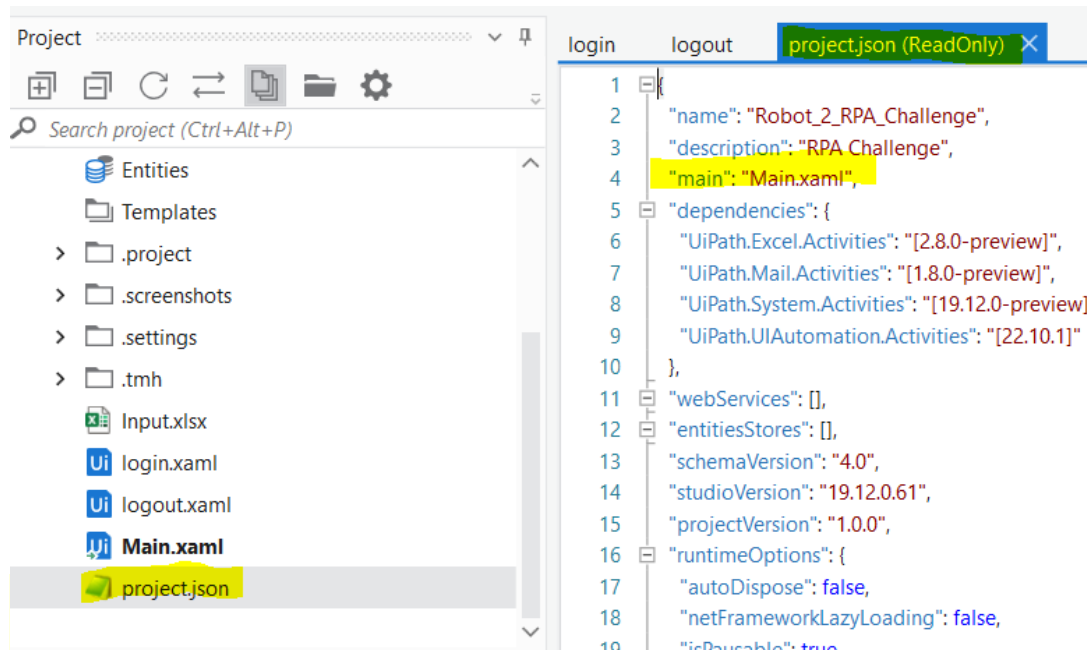
If i want to run logout.xaml to be executed first rather than main.xaml, when I click on RUN option



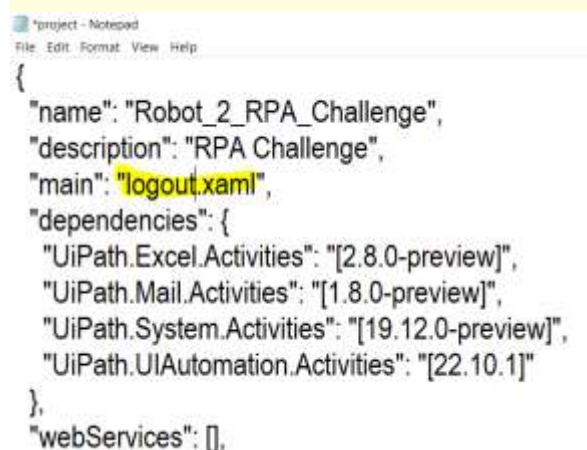
What changes should I make?

By default, all the UiPath projects are configured to execute main.xaml first whenever we try to run the automation.

But it can be changed by modifying the project.json file that is available to us for every project.



As we can see, the main field's value is set to main.xaml and replacing it with logout.xaml and then saving the project.json file will allow us to achieve our expected output which is to launch logout.xaml instead of the default main.xaml whenever the project runs. **(Note: Please use notepad to edit it and relaunch the UiPath studio if needed)**



54. Can you please explain something about version control?

Version control is a system that records changes to a file or set of files over time so that you can recall specific versions later. It allows multiple people to work on the same files simultaneously and tracks the changes made by each person.

Version control systems typically have a central repository where all the versions of the files are stored, along with metadata about each version, such as the date it was created, the person who created it, and a description of the changes made.

There are several types of version control systems, including centralized version control systems and distributed version control systems.

In a centralized version control system, all the versions of the files are stored in a central repository, and users check out a copy of the files they want to work on, make their changes, and then check the files back in to the repository.

In a distributed version control system, each user has a local copy of the entire repository, including all the versions of the files. When a user makes changes to a file, they commit the changes to their local repository, and then push the changes to the central repository. This allows users to work offline and to have a complete history of the project on their own computer.

Some of the version controls that the UiPath supports are GIT, TFS and SVN.

55. Can't we use just Python instead of RPA for automations?

Python and RPA (Robotic Process Automation) are two different technologies that are often used for automation tasks.

Python is a general-purpose programming language that can be used to build almost any type of software, including web applications, desktop applications, data analysis tools, and more, and can also be used for automation purposes. It is known for its simplicity, readability, and flexibility, making it a popular choice for beginners and experienced programmers alike.

RPA, on the other hand, is a type of software that is designed specifically for automating repetitive, rule-based tasks. RPA tools typically allow you to automate tasks by "watching" what a user does and then replicating those actions in the background. They do not require any programming knowledge, as the automation is typically created by recording and replaying actions through a user interface, which can help use automate different applications like SAP, Web apps, Windows apps and so on.

In general, Python is a more powerful and flexible tool than RPA, as it allows you to create custom software solutions from scratch. RPA is more focused on automating

specific tasks and is best suited for scenarios where you need to automate a series of predefined actions and build rapid solutions by using low code tools thus cutting down the development time.

Both Python and RPA can be useful for automating tasks, but they are best suited for different types of automation needs. If you need to automate complex processes or build custom software solutions, Python may be the better choice. If you are looking to automate simple, repetitive tasks, RPA may be the more appropriate option as it provides drag and drop functionalities.

56. How do you think the organizations used to automate manual tasks before the existence of RPA?

RPA, or Robotic Process Automation, is a relatively new technology that has only been around for a few decades. Before RPA, there were a variety of different approaches that organizations used to automate business processes. These approaches included using custom-developed software, Macro-based automations, scripts, Business Process Management (BPM) systems and other tools to automate tasks that were previously performed manually.

One common approach to automating business processes before the advent of RPA was to use custom-developed software. This involved writing code to perform specific tasks, such as data entry or report generation. This approach had the advantage of being highly customizable, but it required a lot of time and effort to develop and maintain the software.

Another approach that was used before RPA was to use scripts to automate tasks. This involved using a programming language, such as Python or Bash, to write a script that would perform a specific task. This approach was generally easier to implement than custom-developed software, but it was still relatively time-consuming and required programming skills to develop and maintain the scripts.

Overall, there were a variety of different approaches that were used to automate business processes before the advent of RPA. However, RPA has become increasingly popular in recent years due to its ability to automate a wide range of tasks quickly and easily, without the need for custom software development or programming skills.

57. How can we reverse a DataTable in UiPath?

We may come across situations where we have to process the records available in excel or a data table in reverse.

So, let's explore how to do that in UiPath!!!

`dt_Reverse = dt_Original.AsEnumerable.Reverse.CopyToDataTable`

Note:

1. Simply replace the “dt_Original” with your required “DataTable”

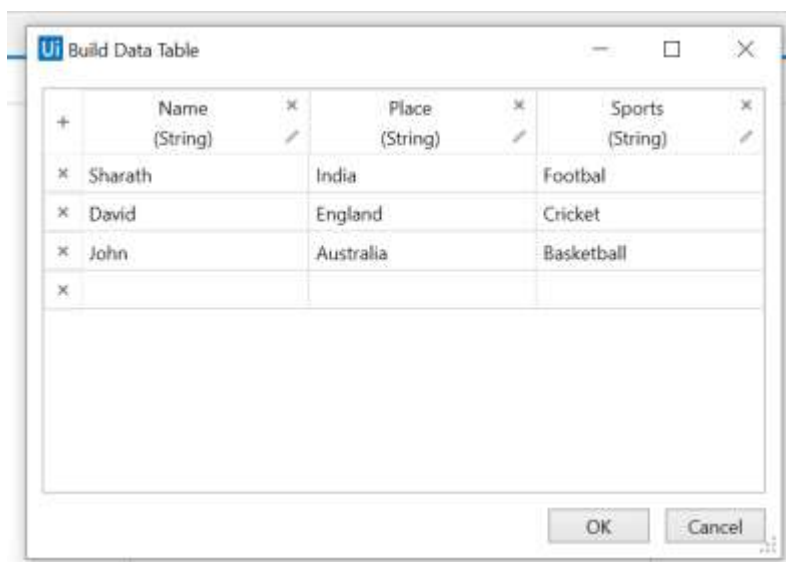
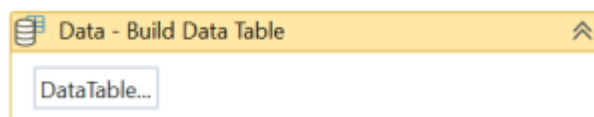
Example

Implementation using UiPath:

Let us implement a workflow which takes a sample data table as input and outputs the reverse of it.

Step 1:

Drag “Build Data Table” activity into the design panel and populate it with some sample data.



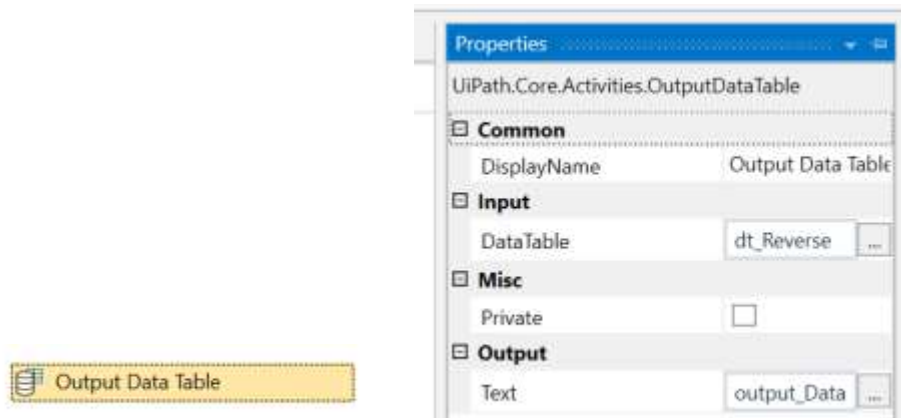
Step 2:

Drag “Assign” activity into the design panel and fill it with above-mentioned code.



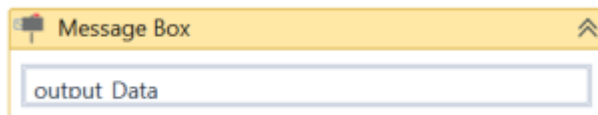
Step 3:

Drag “Output Data Table” activity into the design panel and convert Datatable to String type.



Step 4:

Drag “Message Box” activity into the design panel to display the reversed data table.



Step 5:

Finally, let's run the project.



58. What is UiPath Orchestrator and its benefits?

UiPath Orchestrator is a web-based platform that enables organizations to deploy, schedule, monitor, and manage their UiPath Robotic Process Automation (RPA)

processes and resources. It is a key component of the UiPath platform and provides a centralized, cloud-based environment for managing the entire RPA process.

Some of the benefits of using UiPath Orchestrator include:

Scalability: UiPath Orchestrator makes it easy to scale up or down the number of robots in use, depending on the needs of the organization.

Monitoring and control: UiPath Orchestrator provide detailed monitoring and control over RPA processes, allowing organizations to track the status of their processes and identify any issues that may arise.

Collaboration: UiPath Orchestrator enables organizations to collaborate on RPA projects by providing a centralized platform for sharing resources and information.

Security: UiPath Orchestrator includes robust security features, such as role-based access control and data encryption, to ensure that sensitive information is protected.

Integration: UiPath Orchestrator can be easily integrated with other systems and applications, making it easy to automate processes that span multiple systems.

Overall, UiPath Orchestrator is a powerful tool that helps organizations streamline and manage their RPA processes, enabling them to improve efficiency and reduce costs.

59. What is Uipath Orchestrator and its benefits?

Here are some steps that you can follow when an error occurs in your RPA process:

Identify the error: The first step is to identify the error that has occurred. This may involve reviewing log files or error messages to determine the cause of the error.

Determine the scope of the error: Next, you will need to determine the scope of the error. This will help you understand the impact of the error and whether it is affecting a single process or multiple processes.

Gather relevant information: Once you have identified the error and determined its scope, you will need to gather relevant information about the error. This may include details about the process that was being run, any input data that was being used, and any log files or error messages that may be helpful in understanding the cause of the error.

Analyze the cause of the error: Using the information that you have gathered; you will need to analyze the cause of the error. This may involve reviewing the RPA code, testing different inputs, or consulting with subject matter experts to determine the root cause of the error.

Develop a plan to resolve the error: Once you have identified the cause of the error, you will need to develop a plan to resolve it. This may involve modifying the RPA code, updating data sources, or implementing new controls to prevent similar errors from occurring in the future.

Test and implement the resolution: Before implementing the resolution, you will need to test it to ensure that it corrects the error and does not introduce any new issues. Once you have thoroughly tested the resolution, you can implement it and monitor the RPA process to ensure that the error has been resolved. Finally it's a good practice to get the fix tested by QA and UAT team to confirm the working of changes.

Document the error and resolution: It is important to document the error and the steps taken to resolve it, so that you can refer back to this information if the error occurs again in the future. This will help you to identify patterns and prevent similar errors from occurring again.

By following these steps, you can effectively troubleshoot and resolve errors that may occur in your RPA process.

60. What is the benefit of Global handler in UiPath?

A global handler in UiPath is a specific workflow created to deal with potential exceptions that could arise while an RPA process is being executed. The global handler is automatically activated when an exception occurs, and it can be used to carry out a number of actions like logging the problem, sending an email message, or making an effort to recover from the error.

The key advantage of employing a global handler is that it offers a centralised, standardised method of handling exceptions that may happen while an RPA process is

being executed. This can help to increase the process's dependability and stability and make it simpler to troubleshoot and fix potential problems.

Global handlers can also be modified to match the unique requirements of a company. For instance, a global handler can be set up to report an error to a particular location or to send an email message to a certain group of individuals when an exception occurs. This degree of personalization can help to make sure that the proper steps are done in the event of an exception.

Overall, the usage of a global handler can assist to increase the dependability and stability of an RPA process by offering a centralised approach to handling exceptions and allowing businesses to tailor their exception handling strategy to suit their particular requirements.

61. Difference between Global handler and try catch in Uipath?

In UiPath, a global handler is a specialized workflow that is designed to handle exceptions that may occur during the execution of an RPA process. It is triggered automatically when an exception occurs, and can be used to perform a variety of tasks, such as logging the error, sending an email notification, or attempting to recover from the error.

A try-catch block, on the other hand, is a control flow structure that is used to handle exceptions that may occur within a specific block of code. When an exception occurs within a try-catch block, the exception is caught by the catch block, which can be used to perform a specific action, such as logging the error or attempting to recover from the error.

There are a few key differences between a global handler and a try-catch block:

Scope: A global handler is designed to handle exceptions that occur during the execution of an entire RPA process, while a try-catch block is used to handle exceptions that occur within a specific block of code.

Customization: A global handler can be customized to meet the specific needs of an organization, while a try-catch block is typically used to handle exceptions in a more generic manner.

Location: A global handler is typically configured in the UiPath Orchestrator, while a try-catch block is added to the code of an activity in the UiPath Studio.

Overall, a global handler and a try-catch block are both useful tools for handling exceptions in UiPath, but they serve different purposes and are used in different contexts. A global handler is best suited for handling exceptions that occur during the execution of an entire RPA process, while a try-catch block is best suited for handling exceptions that occur within a specific block of code.

62. Difference between Retry scope and Try catch activity in Uipath?

Retry scopes and try-catch activities are both helpful in UiPath for addressing faults and exceptions that could happen while an RPA process is being executed.

Retry scopes are frequently employed in situations when a certain block of code may fail due to an error, but the fault is transient and may be fixed by rerunning the function. Retry scopes can be used to automatically retry code that interacts with a web application if it fails due to a connectivity error, as in the case of an RPA process engaging with a web site that is having intermittent connectivity problems or database connection timeouts.

On the other hand, try-catch activity are often used to manage potential exceptions that may arise within a certain piece of code. A try-catch block or activity can be used to handle an exception and take the proper action, such as logging the error or sending an email notification, in situations where an RPA process is interacting with a database or SAP application and the bot was unable to perform an expected action and it wouldn't be able to pass through even after retries.

Generally speaking, retry scope and try-catch activities are both helpful tools for handling mistakes and exceptions in an RPA process, and the best tool to use will depend on the particular demands of the process and the kinds of faults or exceptions that may occur.

63. Can you please explain something about the importance of SIT and UAT testing in RPA?

System integration testing (SIT) and user acceptance testing (UAT) are both types of testing that are used in field of robotic process automation (RPA) to guarantee the quality and reliability of an RPA solution prior to its deployment in a production setting. But there are a few significant distinctions between SIT and UAT testing:

Purpose: The main purpose of SIT testing is to ensure that the RPA solution is properly integrated with other systems and applications with which it interacts. This includes

testing the RPA solution and the interfaces between these systems, as well as testing the overall functionality of the solution. UAT testing, on the other hand, focuses on ensuring that the RPA solution meets end-user needs and requirements. This includes testing the usability, performance, and overall effectiveness of the solution.

Scope: SIT testing typically focuses more on technical aspects of the RPA solution, such as Integration with Other Systems and Overall Functionality. UAT testing, on the other hand, focuses on the user experience and the overall business value of the solution.

Involvement: SIT tests are typically performed by the development team and QA team, while UAT tests are typically performed by end users or other stakeholders who use the solution in production.

Overall, SIT and UAT testing are both important steps in the development and deployment of an RPA solution. SIT testing ensures that the solution is properly integrated with other systems and functions as intended, while UAT testing ensures that the solution meets the needs and requirements of the end users in the production environment.

64. Have you thought of knowing about which language or framework the UiPath is build upon?

UiPath is built using the .NET framework and primarily uses C# as its programming language. .NET is a software framework developed by Microsoft that provides a runtime environment for building and running applications, and it is widely used for building a variety of applications, including web, mobile, desktop, and IoT (Internet of Things) applications.

C# is a modern, object-oriented programming language that is designed for building a wide range of applications, including web, mobile, desktop, and cloud applications. It is a powerful and versatile language that is widely used in the development of RPA solutions and other types of software.

In addition to C#, UiPath also supports other programming languages, including VB.NET (Visual Basic .NET) and Python. This allows developers to use the language that they are most comfortable with when building RPA solutions with UiPath.

Overall, the combination of the .NET framework and C# provides a powerful and flexible platform for building RPA solutions with UiPath.

65. Can we convert SecureString DataType to String DataType in UiPath? If yes, can you explain how if you are aware of it?

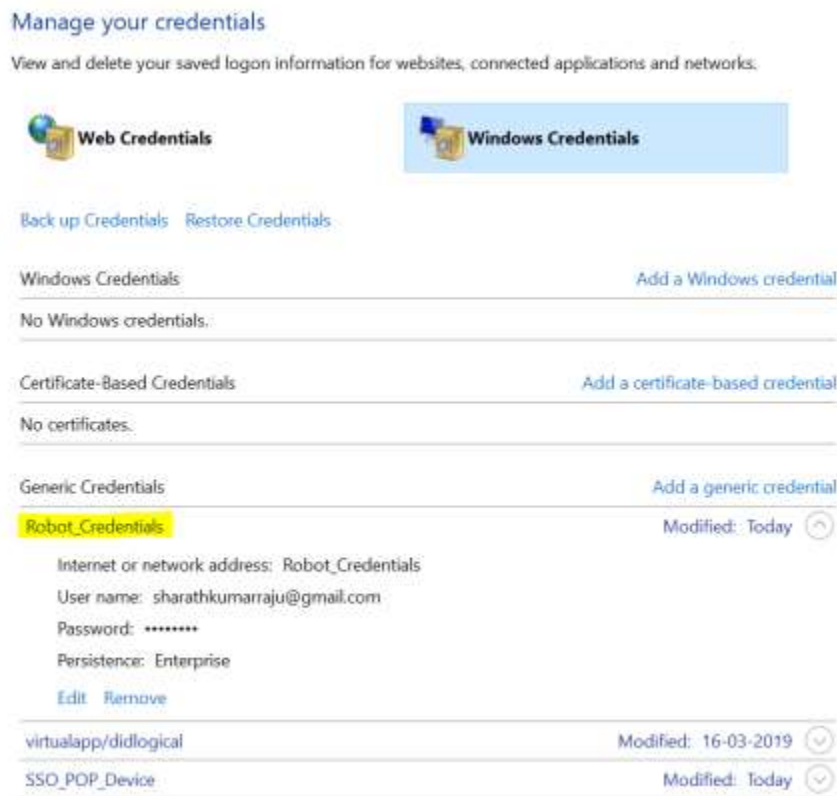
Almost all the processes fetch the credentials from **Windows Credentials** or **Orchestrator**.

But the Mail activities that the UiPath provide us accepts only the string data type for the password field.

Let's see how to handle it...!!!

- 1.Fetch username and password from Windows Credentials.
- 2.Convert Password from SecureString to String Datatype.

Assuming we have credential saved with the name **Robot_Credentials** under **Windows Credentials** as shown below.



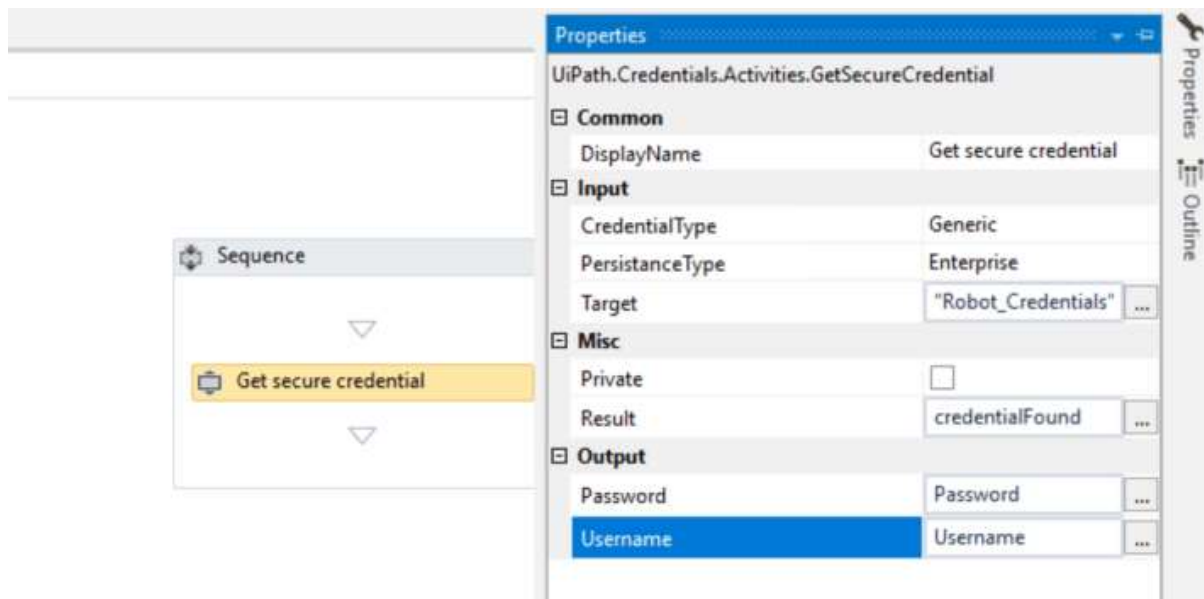
Now let us see how to fetch it and convert it SecureString to string data type...

Step 1: Fetch username and password from Windows Credentials

Use Get Secure Credentials Activity

Target: Credentials Name (String)

Results: Status Code (Boolean)
Password: Fetched Password (SecureString)
Username: Fetched Username (String)

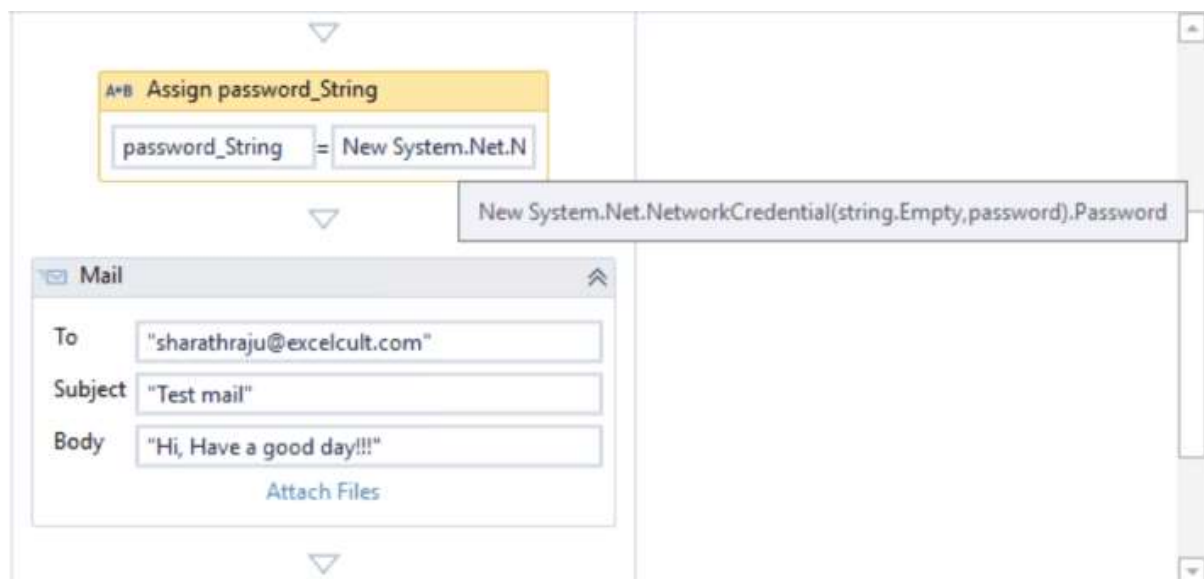


Step 2: Convert Password from SecureString to String Datatype

Use Assign Activity

```
password_String = new System.Net.NetworkCredential(string.Empty,  
Password).Password
```

Then we can pass the password_String variable to Mail Activity.



Hope it has helped you...

66. Any idea about project.json in Uipath and it's importance?



```
*project - Notepad
File Edit Format View Help
{
  "name": "Demo",
  "description": "Blank Process",
  "main": "Main.xaml",
  "dependencies": {
    "UiPath.Database.Activities": "[1.7.1]",
    "UiPath.Excel.Activities": "[2.17.0-preview]",
    "UiPath.Mail.Activities": "[1.18.2]",
    "UiPath.System.Activities": "[22.10.4]",
    "UiPath.Testing.Activities": "[22.12.0-preview]",
    "UiPath.UIAutomation.Activities": "[22.10.4]"
  },
  "webServices": [],
  "entitiesStores": [],
  "schemaVersion": "4.0",
  "studioVersion": "22.12.0.0",
  "projectVersion": "1.0.0",
  "runtimeOptions": {
```

In UiPath, the project Information about our UiPath project is kept in a configuration file called a json file. It contains details like as the project's dependencies, the NuGet packages it uses, and the version of UiPath Studio it was created for.

The project.json file is important for UiPath to manage your project's dependencies and ensure that the correct versions of those dependencies are used when building or deploying your project. It also helps ensure that the project is compatible with the version of UiPath Studio being used.

The project.json file is located at the root of your UiPath project. Usually found along with the .xaml file containing the automation flow.

67.Can you please highlight the difference between Library and Process in Uipath?



A library in UiPath is a collection of custom activities, reusable activities, and other resources that may be applied to various automation applications. Common automation logic or code that may be reused across several projects is often packaged as libraries.

On the other hand, a process is a particular automation project that is created in UiPath Studio. A process normally consists of a collection of steps that are organised in a particular order to automate a particular operation or business process. A process can be as straightforward as one action, like as clicking a button on a website, or it can be as complex as a multi-step workflow involving communication with numerous apps and systems.

Processes and libraries are two crucial parts of UiPath automation projects overall. While processes are specialised automation projects created to automate particular business processes or tasks, libraries offer a set of reusable activities that can be shared and utilised across many processes.

68. Where do you save the credentials in your project?

And also, please mention few other options that we can use to save credentials?

Most of the times we use Orchestrator Assets in our UiPath projects to store the sensitive credentials.

When using UiPath, there are several possible ways to preserve credentials:

Windows Credential Manager:

Windows Credential Manager can be used to store credentials. The Credential Manager is a secure storage location in Windows that can be used to store and retrieve credentials, such as username and password combinations.

UiPath Assets:

UiPath Assets is a secure, centralized repository for storing and managing sensitive information, such as passwords and API keys. Assets allows you to store and manage

credentials in a secure and centralized way, and to easily retrieve them in your automation processes.

Config file:

You can create a configuration file (e.g., an app.config file) and store your credentials in an encrypted form. You can then use UiPath activities to read the encrypted credentials from the configuration file and use them in your automation process. This method is secure, as the encrypted credentials are not easily readable by humans.

Database: You can store your credentials in a secure database, and use UiPath activities to retrieve the credentials from the database as needed. This method is also secure, as the credentials are stored in a secure location and are not easily accessible to unauthorized users.

External credential storing services:

UiPath provides integration with external credential stores, such as CyberArk or HashiCorp Vault, which allow you to store and manage your credentials in a secure and centralized location. You can use UiPath activities to retrieve the credentials from the external credential store as needed.

69. What is the benefit of Picture in Picture option in UiPath?

In UiPath, the Picture in Picture feature is a tool that allows you to view multiple automation projects or activities at the same time on a single screen. This can be useful if you want to compare different projects or activities side by side, or if you want to reference one project or activity while working on another.

To use the Picture in Picture feature in UiPath Studio, you first need to open the project or activity that you want to view in the Picture in Picture window. Then, go to the View menu and select Picture in Picture. This will open the project or activity in a separate window that you can move and resize as needed. You can then open another project or activity in the main UiPath Studio window and reference the Picture in Picture window as needed.

Overall, the Picture in Picture feature in UiPath Studio is a useful tool that allows you to view multiple projects or activities at the same time on a single screen, which can be helpful for comparing or referencing different projects or activities.

70. If I give you a JSON, how will you extract the specific fields from the given JSON in UiPath?

Some business processes may consume the JSON as an input/output to exchange data to/from a web server.

When receiving data from a web server, the data is always a string.

Let's explore how to extract the field from a JSON string!!!

Example

Implementation using UiPath:

Let us implement a workflow which consumes a JSON string and extracts the required fields.

Step 1:

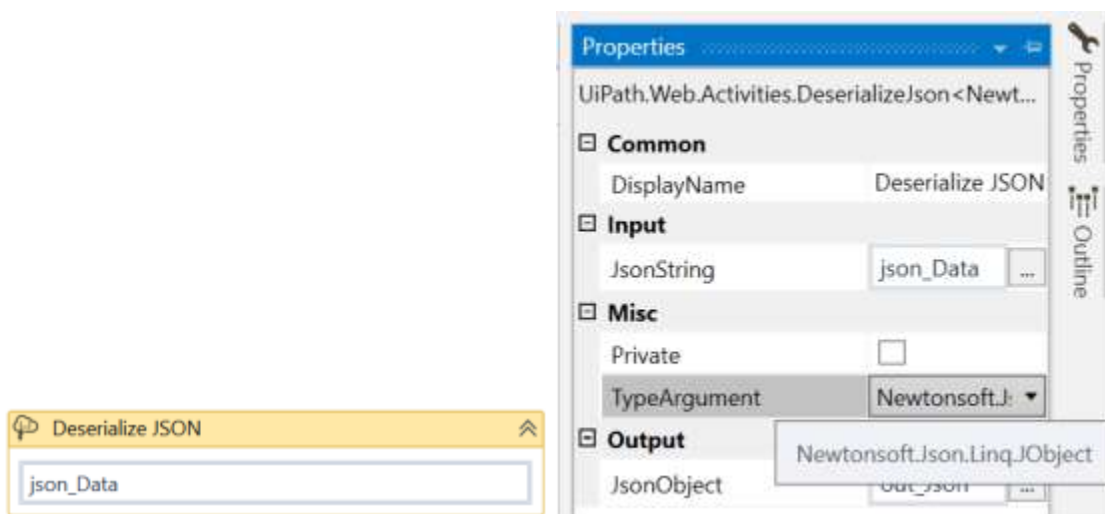
Drag “**Assign**” activity into the designer panel and assign some JSON string as shown below.

```
{
'fruit': 'Apple',
'size': 'Large',
'color': 'Red'
}
```



Step 2:

Drag “**Deserialize JSON**” activity into the designer panel to deserialize a JSON string. Supply the variable “json_Data” to it as input and create a variable called “out_Json” of JsonObject type.



Step 3:

Drag “**Message Box**” activity into the designer panel to display the “Fruit Name”.



Similarly, we can extract any number of required fields by passing the names of the appropriate tokens

Step 5:

Finally, let's run the project to display the "Fruit Name".



71. What are the different challenges that are faced during RPA Implementation in an organization?

There are several challenges that organizations may face when implementing Robotic Process Automation (RPA):

Lack of understanding: Many organizations may not have a clear understanding of RPA and how it can be used to automate business processes. This can lead to misaligned expectations and difficulties in implementing the technology.

Complex processes: RPA may not be suitable for processes that are highly complex or require a lot of decision making and judgment. It is better suited for repetitive, rules-based tasks.

Integration: RPA may require integration with multiple systems and databases, which can be challenging and time-consuming.

Data quality: Poor data quality can hinder the accuracy and effectiveness of RPA, as the bots rely on accurate and up-to-date data to function properly.

Change management: Implementing RPA often requires changes to business processes and may involve training and reallocating staff to different tasks. This can be challenging and may require a thorough change management plan.

Security and compliance: RPA involves the use of sensitive data and may require strict compliance with data protection regulations. Ensuring the security and compliance of RPA systems can be challenging.

Scalability: As RPA systems grow and automate more processes, they may become difficult to manage and maintain. It is important to consider scalability when designing and implementing RPA systems.

72. If I want to create tables and colour them up in my mail body, how can I do it in UiPath?

To create a table with coloured cells in the body of an email using UiPath, you can follow these steps:

Step 1: Use the **Send Outlook Mail Message** or any other alternative mail activity to send a new email message.

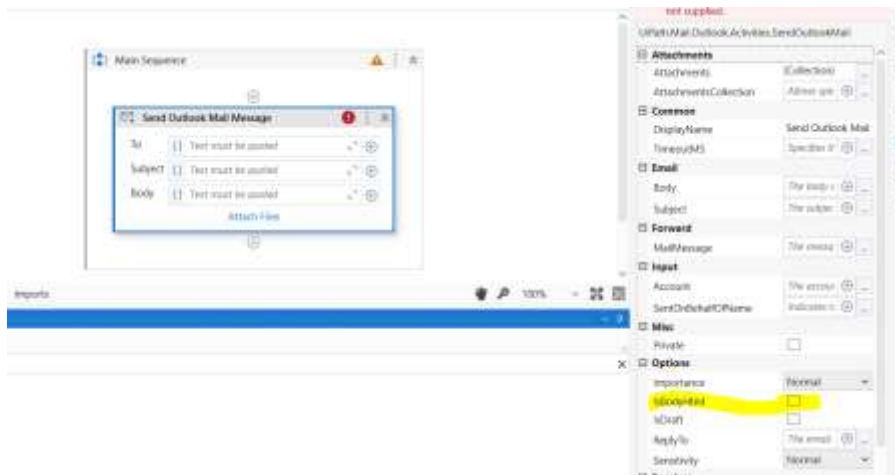
Step 2: In the Body field of the activity, enter the HTML code for your table. You can use the **<table>**, **<tr>**, **<td>**, and **<th>** tags to create the structure of the table. To colour a cell, you can use the style attribute and specify a background colour using the background-colour property.

For example:

Mail Body:

```
<table>
<tr>
  <th>Column 1</th>
  <th>Column 2</th>
</tr>
<tr>
  <td style="background-color: lightgreen">Row 1, Cell 1</td>
  <td style="background-color: lightblue">Row 1, Cell 2</td>
</tr>
<tr>
  <td style="background-color: pink">Row 2, Cell 1</td>
  <td style="background-color: lightyellow">Row 2, Cell 2</td>
</tr>
</table>
```

Step 3: Set the "Is HTML field" to True to indicate that the email body contains HTML code.



Keep in mind that the recipient's email client must be able to display HTML emails in order to see the coloured table. You can also use CSS styles to customize the appearance of the table further, such as specifying border styles or font sizes.

73. What is the naming convention that you usually follow while creating variables and arguments in UiPath projects?

In UiPath, it is good practice to follow a consistent naming convention for your variables, activities, and other elements in your workflow. This can help improve the readability and maintainability of your automation projects.

Here are a few guidelines for naming conventions in UiPath:

Use descriptive and meaningful names: Choose names that accurately describe the purpose of the element. Avoid using abbreviations or acronyms unless they are widely understood.

Use camelCase or PascalCase: In camelCase, the first letter of the first word is lowercase and the first letter of subsequent words is uppercase. In PascalCase, the first letter of each word is uppercase. For example: myVariable, employeeName, OpenApplication.

Use underscores to separate words: You can also use underscores to separate words in your names, for example: company_name, get_data_from_linkedin.

Avoid using special characters: Avoid using special characters such as !, @, #, \$, etc. in your names, as they don't add much info to them.

Use prefixes to differentiate between different types of elements: You can use prefixes to differentiate between variables and arguments, such as variables (v_), and arguments (in_ or out_ or io_) based on the direction.

It's important to note that these are just guidelines and you can use any naming convention that works best for your team and organization. The most important thing is to be consistent and choose names that are clear and easy to understand.

74. Can you please explain the importance of Import or Imported namespace section in UiPath Studio with an example ?

The Imported Namespaces section in UiPath Studio allows you to include references to specific namespaces within an external assembly in your automation project. This can be useful in several ways:

If you wish to use a certain group of classes from a huge third-party library in your automation project, the Imported Namespaces section can be helpful in this situation. The Imported Namespaces section allows you to only include the namespaces that contain the classes you require, as opposed to referencing the complete library there.

This can help reduce the size of your automation project and improve performance.

To add a reference to a specific namespace in the Imported Namespaces section, you can click the Add button and enter the full namespace of the element. For example, if you want to use the System.IO.File class from the .NET Framework in your project, you can add the following namespace to the Imported Namespaces section:

System.IO

For example, suppose you frequently use the System.IO namespace in your projects to access file and directory functions. Instead of having to specify the full namespace every time you use one of these functions, you can add System.IO to the Imported Namespaces section and use the functions directly.

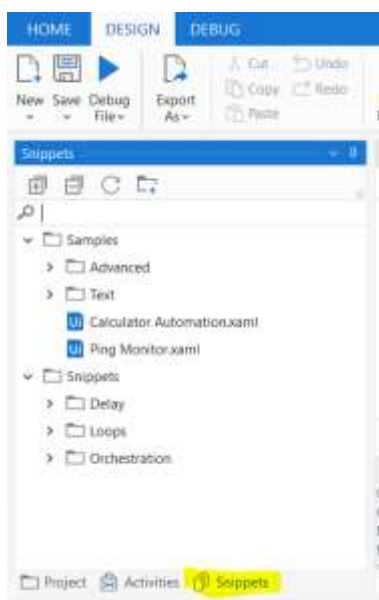
System.IO.Directory.GetFiles("D:\SharathRaju")

In addition to reducing the size of your automation project and improving performance, the Imported Namespaces section can also help you better organize your code and make it easier to find and use specific elements from external assemblies. It can also help you avoid naming conflicts, as you can specify exactly which namespaces you want to use in your project.

75. What are the uses of Snippets and Library in UiPath Implementation and also please explain the difference?

In UiPath, snippets and libraries are two different types of reusable code that can be used to improve efficiency and reduce development time in automation projects.

Snippets are small blocks of code or pre-built activities that can be inserted into a workflow to perform a specific task. Snippets are stored in the Snippets panel in UiPath Studio and can be dragged and dropped into a workflow to use them. Snippets are useful for common tasks that are frequently used in multiple projects, such as clicking a button, while loop snippet or reading data from an Excel file and write it to some app.



Libraries are collections of reusable code that can be imported into an automation project and used to perform a variety of tasks. Libraries can contain custom activities, classes, functions, and other code that can be accessed from the Manage Package section in UiPath Studio. Libraries are typically larger and more complex than snippets, and are often used to perform more specialized or advanced tasks.



In summary, snippets are small, pre-built blocks of code that can be easily inserted into a workflow, while libraries are larger collections of reusable code that can be imported into a project to access additional functionality.

76. What is the main objective of feasibility check during RPA Implementations?

When discussing Robotic Process Automation (RPA), the term "feasibility check" refers to the process of determining if it is feasible or reasonable to utilise RPA to automate a particular business process. This evaluation often includes analysing a number of factors, including the process complexity, the amount of work required, the availability of resources, and the possible costs and advantages of automation.

The feasibility check is a crucial stage in the RPA implementation process since it helps businesses in deciding whether RPA is the best solution for their problems and whether it is worthwhile to spend in its setup and maintenance.

Usually taken into account during a feasibility check are the following elements:

Process complexity: RPA works best for automating routine, rule-based procedures that just don't require for a lot of judgement or decision-making. RPA may not be able to automate a process if it is too complicated or involves a lot of decision-making.

Work volume: RPA works best for processes involving a lot of work since the time and labour it saves can sometimes offset the expense of implementing and maintaining the automation.

Resources: Personnel and technological resources, as well as their availability, can also affect how practical RPA is. The organisation should be equipped with the tools and infrastructure required to support the RPA implementation and maintenance.

Benefits and Expenses: A cost-benefit analysis should be conducted to determine the potential benefits of automating the process, such as increased efficiency and accuracy, and the costs of implementing and maintaining the automation.

Overall, the feasibility check is a crucial step in the RPA implementation process, as it helps organizations determine whether RPA is the right solution for their needs and whether it is worth investing in the implementation and maintenance of RPA.

77. What are common challenges that we encounter when we try to automate web applications using RPA?

When attempting to automate web applications using robotic process automation (RPA), enterprises may run into a number of frequent problems.

Let's get into few of these problems are:

Changes to the structure of a web page or app: If the web page being automated changes in structure, the automation scripts may need to be modified to reflect the new structure. This can take a lot of time and might entail technical resources.

Browser compatibility: Web applications may be displayed differently by different web browsers, which could have an impact on the automation. To make sure it functions well in every browser, the automation may need to be tried in a variety of them.

JavaScript and AJAX: Due to the dynamic nature of these technologies, web - based applications that use JavaScript or AJAX (Asynchronous JavaScript and XML) may be more challenging to automate. This can make it challenging for RPA tools to correctly detect and interact with components on the page; as a result, they may occasionally require customised code to be used for handling the situation.

Authentication & Security issues: Web applications may have security measures in place such as CAPTCHAs or two-factor authentication, that can prevent automation tools from accessing certain areas of the application or data.

Overall, it is important for organizations to carefully evaluate the feasibility of automating web applications using RPA, and to be prepared to deal with potential issues that may arise during the automation process.

78. Where should we use Macro instead of Excel activities in UiPath implementation?

In some cases, UiPath's Excel operations may not be sufficient, in which case macros scripts can be helpful. Instances where it may be appropriate to use macros in UiPath instead of Excel activities are the following cases:

Complicated Data Manipulation: Macros may be a more effective option than Excel activities if you need to do complex data manipulation tasks, such as sorting or filtering data.

Complex or Repeated Tasks: Using a macro may be more effective when automating an activity that is both complex or repetitive in nature. With the ability to write macros in VBA, more sophisticated functionality and control are possible.

Utilizing Excel activities may make it difficult or impossible to automate some processes, including creating charts or pivot tables. Macros might be a better option in some situations

Customizable Functionality: By using macros, particular demands or requirements can be met that may not be possible with just Excel actions.

Enhancement Of Performance: Utilizing macros can sometimes lead to faster and more effective automation than using Excel operations. This is particularly true for jobs that call for a significant quantity of data manipulation or calculation.

It is important to note that macros can be more difficult to work with than Excel activities and may require a more advanced level of programming knowledge. It is also important to consider the security implications of using macros, as they can potentially introduce vulnerabilities into your workbook.

79. What is your understanding of a key stroke document in general or in RPA?

The keystrokes that are entered on a compute keyboard are recorded in a key stroke document. A key stroke document may be used in the context of robotic process automation (RPA) to record keystrokes made by a human user while they interact with a programme or website.

A key stroke document in RPA could be used in a number of ways:

Documentation: The actions that are taken to complete a particular activity, such as login into an application or filling out a form, can be documented using key stroke documentation.

Testing: By imitating user keystrokes, key stroke documents can be used to check the functionality of a website or programme and then automate those steps by using RPA tools

Training: Keystroke guides can be used to teach new users how to carry out actions on an application or website.

Automation: By designing a software robot or "bot" to replicate the keystrokes that are logged in the document, key stroke documents can be used to automate processes.

In general, key stroke papers can be an effective tool for documenting, testing, teaching, and automating processes that involve interacting with software or websites via the keyboard.

80. What is a dictionary in programming and give an example of how to use it in UiPath?

In programming, a dictionary (also known as a map or associative array) is a data structure that stores a collection of key-value pairs. The keys are used to identify the values, and the values can be any type of data. Dictionaries are useful for storing data that needs to be quickly retrieved using a unique identifier, such as a username or product code.

In general, a Dictionary is a collection of words and their Meanings/Definitions.

In the same Dictionary in any programming language is a collection of Keys and Values, where "Key" is equivalent to Words and "Value" is equivalent to Meanings/Definitions.

The Dictionary<TKey, TValue> is a generic collection class available in the System.Collection.Generic namespace. Here “TKey” denotes the type of key and “TValue” is the type of TValue.

Example

Implementation using UiPath :

Let us implement a workflow to achieve the below functionalities

Major Steps That We Will Implement:

1. Defining a Dictionary
2. Adding items to the Dictionary
3. Accessing items from the Dictionary

Step 1:

Drag “**Assign**” activity into the designer panel and define the dictionary.

my_Dictionary = new Dictionary(Of String, String)

Here my_Dictionary is of System.Collection.Generic.Dictionary<String, String> type



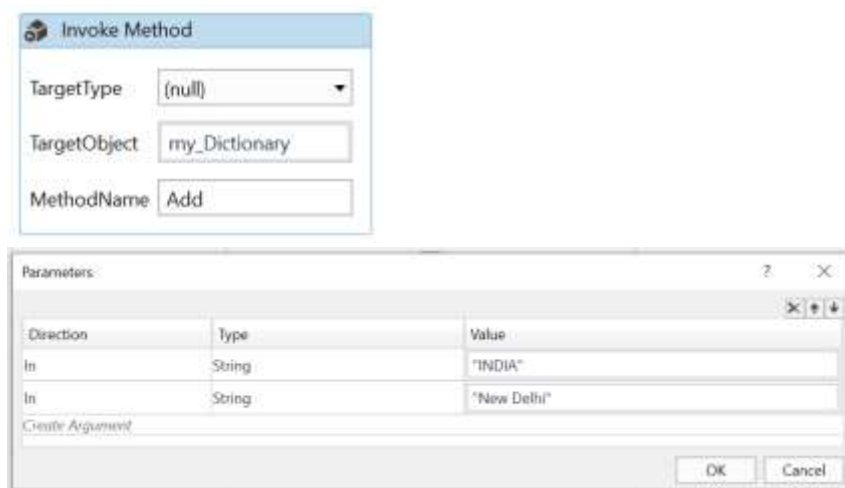
Step 2:

Drag “**Invoke Method**” activity into the designer panel to add items to the Dictionary.

Example:

Key: INDIA

Value: New Delhi



Step 3:

Another way of adding items Dictionary is by using Microsoft.Activities.Extensions package.

Drag “**Add to dictionary**” activity into the designer panel to add items to the Dictionary.

Example:

Key: USA

Value: Washington, D.C



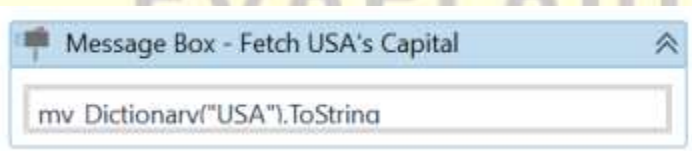
Step 4:

Drag **“Message Box”** activity to display the first added Key and Value pair
i.e. Find the Value of the Key “INDIA”



Step 5:

Drag **“Message Box”** activity to display the second added Key and Value pair.
i.e. Find the Value of the Key “USA”



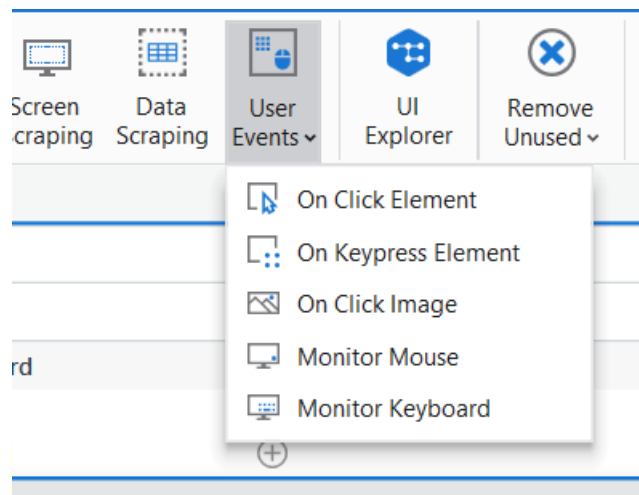
Step 6:

Finally, execute the workflow



81. Please mention few benefits of User Events option in UiPath Studio?

In UiPath Studio, the User Events option allows you to create custom events that can be triggered in your automation processes. This can be useful for a variety of reasons, including:



- Custom events can help to divide the complex automation processes into smaller, more manageable chunks. This can make designing and debugging your automation processes easier.
- Custom events can be used in your automation processes to trigger specific actions or behaviours. For example, you could use a custom event to send an email or trigger a notification when certain conditions are met.
- Custom events are useful for connecting your automation processes to other systems or applications. A custom event could be used to trigger a workflow in another application or to send data to a database, for example.
- Custom events are useful for adding custom logic or functionality to your automation processes. A custom event, for example, could be used to perform calculations or make decisions based on specific criteria.

Overall, UiPath Studio's User Events option can be a powerful tool for designing and customising automation processes to meet your specific requirements.

82. Which database did you work with, and do you have any thoughts on what other databases UiPath supports?

UiPath supports a wide range of databases, including:

Relational databases: UiPath can connect to various types of relational databases, such as Microsoft SQL Server, Oracle, MySQL, and PostgreSQL.

NoSQL databases: UiPath can also connect to popular NoSQL databases, such as MongoDB and Cassandra.

Other databases: UiPath can also connect to other types of databases, such as Excel spreadsheets, CSV files, and ODBC data sources.

In addition to these traditional databases, UiPath also supports connecting to data stored in cloud-based services such as Amazon S3, Microsoft Azure, and Google Cloud.

To connect to a database in UiPath, you can use one of the pre-built activities provided by the UiPath Studio Library, such as the "Connect" activity for connecting to a database, or the "Execute Query" activity for executing SQL queries on a database. You can also use the UiPath Data Management package, which provides additional activities and functionality for working with databases.

Overall, UiPath offers numerous options for connecting to and working with databases as part of your automation processes.

83. What problems might we encounter while working with databases in RPA UiPath?

While working with databases in UiPath, you may encounter the following issues:

Connection problems: You may have trouble connecting to the database due to incorrect connection details or problems with the database server itself.

- **SQL syntax errors:** When writing SQL queries in UiPath, syntax errors may occur if the queries are not written correctly.
- **Data formatting issues:** Working with data from a database may be difficult if it is not in the expected format or contains errors or inconsistencies.

- **Performance issues**: If you are working with large amounts of data or complex queries, the automation process may experience performance issues.
- **Security concerns**: To avoid security concerns, you should take care to secure your database connections and ensure that sensitive data is handled securely.

Overall, when working with databases in UiPath, it is critical to carefully plan and test your automation processes to ensure that they are reliable and perform well.

84. What exactly is UiPath orchestrator, and why do we need it?

Are there any advantages?

UiPath Orchestrator is a web-based platform that allows you to centrally manage and monitor your automation processes. It includes a number of tools and features that can assist you in optimising, scaling, and securing your automation deployments.

Among the advantages of using UiPath Orchestrator are:

- **Centralized management**: UiPath Orchestrator enables you to manage all of your automation processes from a single, centralised platform. This can make monitoring and controlling your automation deployments easier.
- **Resource scheduling**: UiPath Orchestrator includes tools for scheduling automation processes and managing resources like robots and environments. This can help in optimising the use of your automation resources and increasing efficiency.
- **Monitoring and reporting**: UiPath Orchestrator offers real-time monitoring and reporting capabilities that can assist you in tracking the performance of your automation processes and identifying any issues that may arise.
- **Security**: To help protect your automation processes and data, UiPath Orchestrator includes security features such as role-based access control and data encryption.
- **Scalability**: You can easily scale up your automation deployments with UiPath Orchestrator by adding additional robots and environments as needed.

Overall, UiPath Orchestrator can be a useful tool for managing and optimising your automation processes, allowing you to increase efficiency and effectiveness of your automation deployments.

85. What are some of the most common bottlenecks in RPA? Can you name a few of them?

Several common bottlenecks that can occur during the implementation and operation of Robotic Process Automation (RPA) systems include:

- **Automation design and development:** A bottleneck can occur during the automation project's design and development phase. This can include problems determining which processes to automate, designing the automation flow, or developing and testing the automation code.
- **Data quality and accuracy:** In RPA projects, poor quality or inaccurate data can cause errors or delays in the automation process.
- **Integration with other systems:** If the automation process relies on data or functionality from other systems, and those systems are unstable or unavailable, the automation process may experience bottlenecks.
- **Resource availability:** If there are insufficient resources, such as robots or processing power, to support the automation process, bottlenecks can occur.
- **Scalability:** If the automation process is not designed to scale up or down as needed, it may become a bottleneck as the volume of work grows or shrinks.
- **Maintenance and updates:** If the automation process necessitates regular maintenance or updates, it can lead to bottlenecks in the system's operation.
- **Infrastructure Related:** Inadequate infrastructure and resources, such as hardware, software, or bandwidth, can be a bottleneck in RPA projects.
- **User acceptance and adoption:** Another bottleneck can be user acceptance and adoption of the automation solution. If users are not trained properly or are resistant to using the automation tool, this can slow down the automation process.

Overall, it is important to carefully design and manage your automation processes to minimize the risk of bottlenecks and ensure that they operate smoothly and efficiently.

86. What are some post-live deployment documents for RPA? Give us a glimpse of them?

There are several types of documents that are commonly used for post-live deployment of Robotic Process Automation (RPA) systems:

- **Operational documentation**: This type of documentation outlines the steps involved in daily operation and maintenance of the RPA system. It may contain instructions on how to start and stop the system, troubleshoot problems, and perform routine maintenance tasks.
- **Support documentation**: Support documentation is used to assist users in troubleshooting and resolving RPA system issues. It may include information on common problems and their solutions, as well as technical support contact details.
- **Release notes**: These documents describe updates and changes made to the RPA system after it has been deployed. They may include information about new features, bug fixes, and other enhancements.
- **Training materials**: Following the deployment of an RPA system, users may require training on how to use the system effectively. Materials such as user manuals, training guides, and online tutorials may fall into this category.
- **Performance reports**: Performance reports provide information about the RPA system's performance, including metrics like uptime, error rates, and processing times. These reports can assist in identifying areas for improvement and optimising system operation.

Overall, these documents can help to ensure the smooth operation and effective use of an RPA system after it has been deployed.

87. When should we use Python instead of .net code in UiPath? Describe a few scenarios?

There are several scenarios in which Python in UiPath may be preferable to .NET code:

- If you already know Python and prefer to use it for automation: If you're familiar with Python and feel more at ease with it, you might want to use it in UiPath.
- If you need to connect to a Python-based system or library, do the following: If you need to integrate your automation processes with a Python-based system or library, using Python in UiPath may be the easiest option.
- If you want to use a Python library or module that is not available in .NET, you can: Python has a large and active developer community, and there are many libraries and modules available for various tasks. If you need to access a Python library or module that is not available in .NET, you may need to use Python in UiPath.
- If you want to use Python's capabilities for a specific task: Python is a powerful programming language with many capabilities, and it may be especially well-suited for certain tasks. Python, for example, has strong support for data analysis and machine learning; therefore, if you want to use these capabilities in your automation processes, Python may be a good choice.

Overall, the decision to use Python in UiPath will depend on the specific needs and requirements of the automation project. It is important to carefully consider the benefits and trade-offs of using Python in your UiPath automation processes before making a decision.

88. What are the roles and responsibilities of an RPA COE? Give some thoughts on its significance?

A Center of Excellence (COE) is a dedicated team within an organisation responsible with developing and promoting best practises for a specific technology or domain. A COE's responsibilities in the context of Robotic Process Automation (RPA) may include:

- **Creating and enforcing RPA standards and guidelines:** The COE may be in charge of establishing and enforcing RPA standards and guidelines to ensure that RPA systems are consistent, reliable, and adhere to best practises.
- **Training and support:** The COE may provide training and support to other teams and individuals within the organisation to assist them in understanding and effectively using RPA.

- **Evaluating and selecting RPA tools and technologies:** The COE may be in charge of evaluating and selecting the RPA tools and technologies that will be used within the organisation, as well as managing the licences and contracts for these tools.
- **Establishing governance and oversight:** The COE may be responsible for establishing governance and oversight mechanisms to ensure that RPA systems are being used appropriately and in compliance with relevant laws and regulations.
- **Facilitating collaboration and knowledge sharing:** The COE may serve as a hub for sharing RPA knowledge and best practises within the organisation, as well as facilitate collaboration between different teams and departments to optimise RPA use.

Overall, the responsibilities of a COE in RPA will depend on the specific needs and goals of the organization, as well as the maturity of its RPA program.

89. What are the roles and responsibilities of an RPA COE? Give some thoughts on its significance?

Robotic process automation (RPA) and Selenium are two different technologies for task automation. Here are a few key distinctions between RPA and Selenium:

- **Purpose:** RPA's primary goal is to automate repetitive tasks that humans typically perform, such as data entry, document processing, and customer service. Selenium's primary goal is to automate web application testing, including tasks such as ensuring that web pages display correctly and that web applications function as expected.
- **Implementation:** RPA is typically implemented by designing "bots" or software programmes to perform the automated tasks. To control a web browser and interact with web applications, Selenium is implemented by writing code in a programming language such as Java or Python.
- **Complexity:** RPA can be relatively simple to implement, especially for simple, repetitive tasks. Selenium requires more advanced programming skills and can be more difficult to implement, particularly for tasks involving more advanced testing scenarios.

- **Scope:** RPA can be used to automate a wide range of tasks and processes, including those involving interaction with multiple systems and applications. Selenium is primarily used to automate web application testing and is not intended to be used for other purposes. and it is not designed to interact with other systems or applications.

Overall, RPA and Selenium are two different technologies that can be used for automating tasks, but they have different purposes and are implemented in different ways. RPA is primarily used to automate repetitive tasks that are typically performed by humans, while Selenium is primarily used to automate testing of web applications.

90. What are the roles and responsibilities of an RPA COE? Give some thoughts on its significance?

There are several ways to publish code in UiPath Studio:

- **Publish to a local folder:** This option allows you to publish your code to a local folder on your computer. This can be useful for testing and debugging your code, as well as sharing it with other members of your team.
- **Publish to Orchestrator:** This option allows you to publish your code to UiPath Orchestrator, a platform for managing, scheduling, and deploying automation projects.
- **Publish to a version control system:** To track changes and collaborate with other developers, you can publish your code to a version control system such as Git or TFS.
- **Publish to an online NuGet feed:** You can publish your code to an online NuGet feed, such as nuget.org, to share your code with other developers. which is a package management system for the .NET framework, by clicking the "Publish" button in the UiPath Studio ribbon and selecting the "Publish to NuGet" option. You will need to have a NuGet feed set up and configured in order to use this option.

Overall, there are several ways to publish your code in UiPath Studio, depending on your needs and requirements. You can choose the method that best fits your workflow and your goals for sharing and deploying your code.

91. What are the advantages of UiPath over other RPA tools?

Please name a few?

UiPath is a popular robotic process automation (RPA) platform with a variety of features and capabilities for automating business processes. UiPath has several advantages over other RPA tools, including:

- **Ease of use**: UiPath has a user-friendly interface and offers a variety of tools and resources, such as a visual designer, activity libraries, and templates, to assist users in quickly and easily automating tasks and processes.
- **Flexibility**: UiPath supports a wide range of automation scenarios, including tasks involving interaction with multiple applications and systems, and it can be used with a number of programming languages, including C#, Java, and Python.
- **Scalability**: UiPath offers a number of scalability options, including the ability to scale up automation processes as needed and to manage automation projects centrally via Orchestrator, a platform for deploying, scheduling, and monitoring automation processes.
- **Integration**: UiPath integrates with a variety of tools and platforms, such as cloud-based applications, databases, and other RPA tools, making it simple to automate tasks and processes in complex environments.
- **Support and resources**: UiPath offers a variety of support and resources to users, including documentation, community forums, training materials, and professional services.

Overall, UiPath provides a variety of features and capabilities, making it a popular choice for automation.

92. What are the advantages of UiPath over other RPA tools?

Please name a few?

The terms "thick client" and "thin client" refer to the type of software architecture used by the RPA solution.

A **thick client** architecture is one in which the RPA software is installed locally on the user's machine and all processing is done on that machine. This architecture is typically used when the RPA solution requires extensive control over the user's machine and access to local resources such as the file system or installed applications.

In contrast, a **thin client** architecture is one in which the RPA software is installed on a central server and accessed remotely by the user via a web browser or other client application. All processing is done on the central server in this architecture, and the user's machine acts as a simple terminal for accessing the RPA solution. This architecture is typically used when the RPA solution does not require extensive control over the user's machine and can function independently of local resources.

The amount of resources required by thick and thin clients differs significantly. Because all of the necessary components and dependencies are installed locally, thick clients typically require more resources, such as memory and processing power. Thin clients, on the other hand, rely on a central server or cloud service to execute automation tasks, requiring fewer resources.

Another distinction is the level of control and customization available. Because all of the necessary components and dependencies are installed locally, thick clients allow for greater customization and control. Thin clients, on the other hand, may have fewer customization and control options because they rely on a central server or cloud service to carry out the automation.

93. What are some of the most common issues we see between dev and prod systems during RPA go-live?

Several common issues may arise during the go-live phase of a Robotic Process Automation (RPA) implementation when moving from a development (dev) environment to a production (prod) environment. These problems may include:

- **Data inconsistencies**: There may be differences in the data used in development and production systems, which can cause problems when processes tested in development are run in production. Differences in data volume, data quality, or data structure can all contribute to this.
- **Differences in functionality**: There may be differences in the functionality of dev and prod systems, causing processes to behave differently in prod than they did in dev. This can be caused by differences in system configurations, installed applications, or dependencies on third-party software.

- **Performance issues:** Because production systems are typically more heavily loaded and mission-critical than development systems, they may experience different performance issues. Bottlenecks, resource contention, and system failures are examples of such problems.
- **Integration issues:** Because production systems are typically more heavily integrated with other systems than development systems, they may experience different integration issues than development systems. These issues can include incompatible data formats, conflicting APIs, or system outages.
- **Differences in security:** If the security configurations of the dev and prod environments differ, the RPA solution may not function properly in prod. This can be due to differences in the two environments' authentication methods, access controls, or network configurations.
- **Deployment difficulties:** Deploying and updating prod systems can be more complex and riskier than deploying and updating dev systems, due to the importance of maintaining uptime and the potential for disruption to business processes.

94. How would you persuade a client to adopt RPA if you were given the chance?

There are several approaches you can take to persuade a client to implement Robotic Process Automation (RPA):

- **Highlight the advantages:** Emphasize the client's benefits of RPA, such as increased efficiency, reduced errors, and cost savings.
- **Share success stories:** Share success stories or case studies from other companies that have used RPA successfully.
- **Showcase the technology:** Demonstrate the RPA software in action to the client through a quick demo, emphasising its capabilities and how it can streamline their processes.
- **Offer a pilot project:** Suggest a pilot project to test the effectiveness of RPA in a specific process or business unit before committing to a larger rollout.

- **Discuss the ROI:** Discuss the client's expected return on investment (ROI) from implementing RPA, including any cost savings or increased productivity.
- **Address any concerns:** It is critical to address any concerns the client may have about RPA, such as the impact on current employees or data security. You can reassure the client that RPA can be used to supplement and support human workers, and that proper security measures can be implemented to safeguard sensitive data.

Overall, it's critical to emphasise the value that RPA can bring to the client's business while also carefully and convincingly addressing any concerns they may have.

95. What steps should we take if the selectors are not stable while automating UI actions with UiPath Studio??

If we are experiencing issues with unstable selectors in UiPath, there are several steps we can take to try to resolve the issue:

- **Verify the attributes:** Make sure the element's attributes are unique and do not change frequently. It will be difficult to create a stable selector if the attributes of the element are constantly changing.
- **Check for Latest UI Activities package:** Ascertain that you are using the most recent version of UiPath and that your project is up to date. Newer versions of the software can sometimes resolve issues with unstable selectors.
- **Use relative selectors:** Instead of selecting an element based on its absolute position or attributes, try using a relative selector, which targets the element based on its relationship to another element on the page. This can help to make the selector more stable because the relative position of the element is less likely to change.
- **Use wildcards:** If an element's attributes change frequently, you can use wildcards in your selector to match multiple possible values. For example, you could use a wildcard to match any number of characters in an element's title name.

- **Try a different selector type/attribute**: If you're having trouble creating a stable selector with one type, try another. For example, if your html selector is unstable, try replacing it with a CSS selector and can also take help of fuzzy selectors

If these steps do not resolve the problem, you may need to consider other approaches, such as using image or OCR recognition to identify the element, javascript or using a custom activity to interact with the element in a different way.

96. How would you handle a task that you haven't worked on before that needs to be completed in a timely manner using automation tools?

If I was assigned a new RPA (Robotic Process Automation) task, there are several steps That I will take up to approach it effectively:

- **Collect information**: Begin by gathering as much information about the task and the process that it is a part of as possible. This could include going over documentation, speaking with subject matter experts, and conducting online research.
- **Divide the task into smaller, more manageable steps**: Once I have a good understanding of the task, divide it into smaller, more manageable steps. This will make it easier to understand the task's individual components and develop a strategy for completing it.
- **Investigate the necessary tools and technologies**: Determine which tools and technologies you will require to complete the task, and research them to gain a better understanding of how they work and how to effectively use them.
- **Create a strategy**: Create a plan for completing the task based on the information I have gathered and the steps I have identified. This should include a timeline, a list of deliverables, and any resources I will require.
- **Implement and test your solution**: Using the tools and technologies I learned about, put my solution into action and test it to ensure it's working properly.
- **Refine and optimise**: Once I have got a working solution, keep refining and optimising it to increase efficiency and effectiveness. This could include

experimenting with different approaches, automating extra steps, or integrating with other systems.

Overall, the key to handling a new task in RPA is to approach it systematically, gathering information and breaking it down into manageable steps. You can effectively tackle even complex and unfamiliar tasks by following this process.

97. What are the various OCR options available in the RPA market?

OCR (Optical Character Recognition) is a computer technology that recognises and extracts text from images and other scanned documents. In the RPA (Robotic Process Automation) market, there are several OCR options:

- **Tesseract**: Tesseract is a Google-developed open-source OCR engine. It is freely available and can be used with a wide range of programming languages and platforms.
- **ABBYY FlexiCapture**: It is a commercial OCR solution designed for extracting data from structured and semi-structured documents. It has a number of functions, such as image enhancement, data validation, and integration with other systems.
- **Nuance OmniPage**: Another commercial OCR solution designed for both document scanning and data extraction is Nuance OmniPage. It includes a number of features, such as support for a wide range of languages and document formats, as well as integration with other business applications.
- **OCR.space**: OCR.space is a cloud-based OCR service that is accessible via an API or a web interface. It has a number of features, such as support for multiple languages and document formats, as well as the ability to extract data from images and PDF files.
- **Adobe OCR**: Adobe offers OCR capabilities as part of its Acrobat Pro DC software. The Adobe OCR engine is highly accurate and can be used to extract text from a wide range of documents and images.
- **UiPath OCR**: UiPath, a leading provider of RPA software, offers an OCR engine that can be used to extract text from images and PDFs. The UiPath OCR engine

is highly accurate and can handle a wide range of languages and document types.

Overall, the RPA market's OCR options differ in terms of accuracy, language support, and the range of document types they can handle. It is critical to carefully evaluate your organization's needs and select the OCR solution that best meets those needs.

98. What are the potential problems that arise when APIs are used in RPA automation?

There are several issues that can arise when APIs (Application Programming Interfaces) are involved in RPA (Robotic Process Automation) automation:

- **Security concerns**: APIs can expose sensitive data and functionality to external systems, so proper security measures must be in place to prevent unauthorised access and data breaches.
- **Stability**: APIs are subject to changes and disruptions, which can have an impact on the stability and reliability of RPA processes that rely on them. It is critical to monitor API performance and have backup plans in place in the event of unexpected outages or changes.
- **API integration issues**: APIs can be complex, necessitating the use of specific integration methods or protocols. Automation failures or other issues can occur if the API is not properly integrated with the RPA system.
- **Versioning and updates**: APIs can change or be updated over time, which can cause existing automations to break or require modifications. It is critical to keep track of these changes and to test automations on a regular basis to ensure they continue to function as intended.
- **Documentation**: Proper documentation is essential for effectively understanding and using APIs. It can be difficult to understand how to use the API and troubleshoot any issues that may arise if the API documentation is incomplete or unclear.
- **Third-party API dependence**: If you use third-party APIs in your RPA system, you may be reliant on their dependability and availability. If the API fails or has problems, the performance of your system may suffer.

Overall, when working with APIs in RPA automation, it is critical to carefully consider potential issues and take appropriate steps to address them. This could include putting in security protocols, monitoring API performance, and extensively testing integrations to ensure they function efficiently.

99. Where would you use scripts but not RPA, even if you had an RPA tool licence? Provide an example?

Even if you have an RPA licence, here is an example of when you might use scripts instead of RPA (Robotic Process Automation):

Assume you work for a company that keeps a large database of customer records. The database is used by several departments and is regularly updated. You are responsible for creating reports that summarise customer data for various departments as part of your job.

You considered using RPA to automate the report generation process at first. However, after reviewing the specifications, you realised that the reports must be customised for each department and include data from multiple sources. In this case, RPA would be impractical because it would necessitate the creation of a separate robot for each department and configuring it to access and process the necessary data.

Instead, you decide to automate the report generation process with scripts. You write a Python script that can be customised to generate reports for each department based on their unique needs. The script can access the database and other data sources, extract the required data, and generate the required reports.

It would be cost effective way because we can save bot licence cost which can be used for other processes – given you have a good technical person to handle the programming.

Cost: In some cases, using scripts may be less expensive than using RPA, especially if the task is simple and does not require the use of specialised RPA software capabilities.

Performance: Scripts may be able to execute faster than RPA depending on the task and the tools used. This is especially important for tasks that must be completed in real-time or with minimal latency.

Overall, whether to use scripts or RPA will be determined by a number of factors, including the task's complexity and customization requirements, the need for integration with other systems, and cost and speed considerations. It is critical to carefully consider your options and select the approach that is best suited to your needs.

100. What are the disaster recovery plans for RPA processes in order to keep the process running?

Disaster recovery plans for RPA (Robotic Process Automation) processes include a set of measures implemented to ensure that RPA processes can continue to run in the event of a disaster or other unexpected disruption.

These measures may include:

- **Identify critical processes**: The first step in developing an RPA disaster recovery plan is determining which processes are critical to the organization's operations. This will assist in determining which processes should be prioritised in the recovery plan.
- **Backup and restore**: A common disaster recovery strategy is to create backups of your automation processes and associated data on a regular basis, with a plan in place to restore them in the event of a disaster. This may entail creating backup copies of your processes and data using backup software or manual backup procedures and storing them in a secure location.
- **Implement preventive measures**: To disruptions or failures from occurring in the future, it is important to implement preventive measures. This may involve updating software or hardware, implementing new policies or procedures, or conducting regular maintenance and testing.
- **System Availability**: Implementing redundant systems entails putting in place additional systems that can be used to run RPA processes if the primary system fails.
- **Establishing communication protocols**: Having clear communication protocols in place can help ensure that in the event of a disaster, RPA processes can be restored quickly and efficiently. Establishing communication channels with key stakeholders such as IT teams, business leaders, and RPA process users may be required.

- **Training employees on disaster recovery procedures:** Ensuring that employees are trained on disaster recovery procedures can help ensure that they are able to respond to any disruptions to RPA processes quickly and effectively.
- **Testing disaster recovery plans:** Test your disaster recovery plan on a regular basis to ensure that it is effective and that all team members are familiar with the procedures.

You can help ensure that your RPA processes are robust and can continue to run smoothly even in the face of unexpected issues or failures by implementing these measures and reviewing and updating your disaster recovery plan on a regular basis.

*******More Questions Will Be Added Soon... All the best!!!!*******

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