MODULE 2 QB

-PP

1) What is Automation? Explain the various techniques available for automation.

Ans) Automation is technology that deals with the application of machines and computers to the production of goods and services.

The various techniques available for automation are:

1) Custom software:

- Developing new software to perform repetitive tasks.

2) Runbook:

- They are typically used for IT-based operations.
- They are a compilation of a set of commands or tasks that are performed for maintenance and other types of activities.
- Runbooks can be offline as well.

3) Batch:

- Batch files are very popularly used.
- They used to compile a sequence of commands that could be run by a single click or command.

4) Wrapper:

- Wraps around existing software or hosts client applications.
- The wrapper monitors activities in a client app and performs actions based on rules.

5) Browser automation:

- It can be used to read from a website and save to a database.
- It can also write to fields based on rules.
- Sometimes, it is also referred to as web scripting or web injections.

6) Desktop automation:

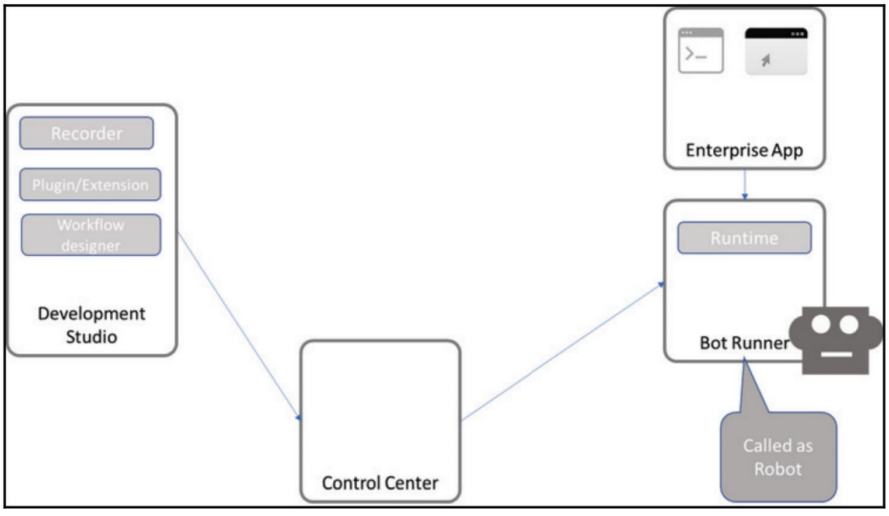
- Multiple screens on a desktop were woven together to present a single screen.
- If there is some data transfer from one screen to another, it could be done automatically.

7) Database/web service integration:

- In database integration, we read/write to a client database directly.
- In web service integration, we communicate with the client system using a web service.

2) With a neat diagram, explain the components of RPA.

Ans)



Recorder:

- The recorder is the part of the development studio that developers use to configure the Robots.
- It is like the macro recorder in Excel.
- It records mouse and keyboard movements on the UI and this recording can be replayed to do the same steps again and again.
- This enables rapid automation.
- This component has played a very big role in the popularity of RPA.

Development studio:

- The development studio is used by developers to create Robot configuration or train the Robots.
- Using the development studio, a set of instructions and decision-making logic is coded for Robots to execute.
- Some platforms provide flow-charting capabilities such as Visio, so it becomes very easy to plot steps in a process, whereas some other platforms require coding.
- In most studios, in order to do commercial development, developers need to have a fair amount of knowledge of programming, for example, loops, if else, variable assignment and so on.

Extensions and plugins:

- Most platforms offer many plugins and extensions to ease the development and running of bots.
- In many applications, such as Java SAP, it is not easy to individually identify controls of the UI through traditional techniques.
- RPA vendors have developed plugins and extensions to help with these issues.

Bot runner:

- This is also referred to as the Robot.
- Other components make it run.

Control center:

- The objective of the control room is to provide Robot management capabilities.
- It monitors and controls a Robot's operation in a network.
- It can be used to start/stop Robots, make schedules for them, maintain and publish code, redeploy Robots to different tasks, and manage licenses and credentials.

3) Explain the different RPA Platforms available in the market.

Ans) The different RPA Platforms are as follows:

1) Automation Anywhere:

- Automation Anywhere helps to automate business processes for companies.
- They focus on RPA, cognitive data (ML and NLP) and business analytics.
- Their bots are capable of handling both structured as well as unstructured data.

2) Blue Prism:

- Blue Prism aims to provide automation that enterprises can use according to their needs.
- Blue Prism aims to do this by providing automation that is scalable, configurable and centrally managed.
- It sells its software through its partners, some of which are Accenture, Capgemini, Deloitte, IBM, TCS, Tech Mahindra and Wipro.

3) WorkFusion:

- WorkFusion offers automation that is based on RPA and ML.
- It delivers software as a solution for automating high volume data.
- It enables man and machine to work together while managing, optimizing or automating tasks.

4) Thoughtonomy:

- Thoughtonomy delivers software that helps automate business and IT processes.
- It uses Blue Prism and other automation software and customizes it.

5) KOFAX:

- Kofax's Kapow RPA platform is capable of automating and delivering processes that are repetitive and rule based.
- It uses Robots for extracting and consolidating information.
- Kofax's software, however, doesn't have machine learning.

6) UiPath:

- UiPath is an RPA technology vendor who designs and delivers software that helps automate businesses.
- There are three basic components in UiPath:
  1. UiPath Studio
  2. UiPath Robot
  3. UiPath Orchestrator

4) List and explain the 3 basic components in UiPath (or UiPath Stack).

Ans)

There are three basic components in UiPath:

1. UiPath Studio

2. UiPath Robot

3. UiPath Orchestrator

UiPath Studio:

- UiPath Studio is the development environment of UiPath.
- It is the primary tool to develop UiPath Robots.
- By using the drag-drop facility from the toolbox, you may write a whole sequence of workflows to make Robots perform a set of tasks.
- These steps look like a data flow diagram and are very easy to understand.
- The studio gives the same look and feel as a workflow.
- The designer gives you full control of the execution order and actions taken, also known as activities.
- An activity or action includes clicking a button, writing and reading a file, and so on.

UiPath Robot:

- UiPath Robot is a Windows service that can open interactive/non-interactive window sessions to execute processes or a set of steps, developed or recorded using UiPath Studio.
- These Robots can be controlled by Orchestrator, which is part of the Enterprise Edition.
- There is an option at installation to de-link these Robots from Orchestrator and work independently on the desktop.
- When installed in user mode, these Robots have the exact same rights as the user.

There are 3 types of Robots:

1. Attended: It operates on the same workstation as a human to help the user accomplish daily tasks.

2. Unattended: It can run unattended in virtual environments and can automate any number of processes.

3. Free: It is similar to Unattended Robots, but can be used only for development and testing purposes, not in a production environment.

UiPath Orchestrator:

- UiPath Orchestrator is a server-based application that lets you orchestrate your Robots, hence the name Orchestrator.
- It runs on a server and connects to all the Robots within the network, whether Attended, Unattended or Free.
- It has a browser-based interface that enables the orchestration and management of hundreds of Robots with a click.
- The following modules exist in UiPath Orchestrator and help in managing the Robots: Robots
  - Processes
  - Jobs
  - Schedules
  - Assets
  - Queue

5) Write a short note on two variations in UiPath Platform.

Ans) The UiPath platform is available in two variations:

1. Enterprise Edition:

- This edition is suitable for large companies starting their RPA projects and looking to scale their Robot deployments in the future.
- It is integrated with UiPath Orchestrator.
- This version can be updated by visiting the UiPath website and by downloading the newest version of the UiPath platform installer.
- Running the installer automatically replaces all the old files without modifying any of your settings.

2. Community Edition:

- This is suitable for individual developers and small organizations with fewer employees.
- The Community Edition is always up-to-date, and it automatically updates itself as soon as a new version is available.

6) What is a Task recorder and explain the types of recording in UiPath?

Ans)

- The task recorder is the main reason for RPA's success.
- With the task recorder, we can create a basic framework for automation.

There are four types of recording:
1) Basic
2) Desktop
3) Web
4) Citrix

1) Basic recorder:

- Basic recorder is used to record activities on the desktop.
- This type of recorder is used for single activities and simple workflows.

2) Desktop recorder:

- The desktop recorder, like the basic recorder, is used to record activities on the desktop.
- It is used for recording multiple activities and complex workflows.
- Each activity here is contained in an Attach Window component.

3) Web recorder:

- The web recorder, as the name suggests, is used to record actions on web applications and browsers.

4) Citrix recorder:

- Citrix is used to record virtual machines, VNC and Citrix environments.
- This recording allows only keyboard, text and image automation.

7) Explain the different types of projects in UiPath Studio.

Ans) The main types of project supported by UiPath Studio are as follows:

1) Sequence:

- This is suitable for simple actions or tasks.
- It enables you to go from one activity to another, without interfering with your project.
- It consists of various activities.
- Creating sequences is also useful for debugging purposes.
- One activity from a particular sequence can easily be tracked.
- The Basic type of project can be started using the Blank option in the start tab and then adding the sequence in the diagram from the toolbox.

2) Flowchart:

- This is suitable for dealing with more complex projects.
- It enables you to integrate decisions and connect activities.
- To start this kind of project, choose the Flowchart - Simple Process option from the new project menu.

3) Assistant:

- This is suitable for developing attended or Front Office Robots.
- Sometimes these Robots are called assistants.
- To start this kind of project, choose the Assistant - Agent Process Improvement option from the new project menu.

4) State machine:

- This is suitable for very large projects that use a finite number of states in their execution, triggered by a condition.
- To start this kind of project, choose the Process - Transaction Business Process option from the new project menu.

8) Write a short note on

1) Designer Panel

Ans)

- This is the panel where one defines the steps and activities of the projects.
- It is where a developer does most of the things to record activities or manually drop activities on the canvas.
- In UiPath, this is equivalent to the code windows of Microsoft Visual Studio.
- When we develop a Robot, this is the window where we will be organizing various activities in a flow or chain to accomplish a task.
- The user has the option of making any changes to it.

2) Properties Panel

Ans)

- The panel located on the right-hand side of the user interface.
- It is for viewing the properties of the activities and for making any changes, if required.
- You need to select an activity first and then go to the Properties panel to view or change any of its properties.

3) Output Panel

Ans)

- This panel displays the output of the log message or write line activities.
- It also displays the output during the debugging process.
- This panel also shows errors, warnings, information, and traces of the executed project.
- It is very helpful during debugging.
- The desired level of detail can be changed in Execute | Options | Log activities.

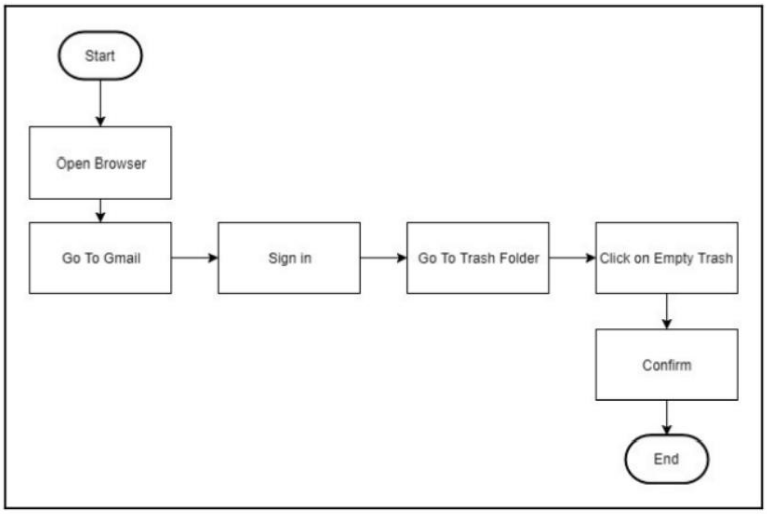
4) Argument Panel

Ans)

- While variables pass data from one activity to another in a project, arguments are used for passing data from one project to another.
- Like variables, they can be of various types -String, Integer, Boolean, Array, Generic, and so on.
- Since arguments are used to transfer data between different workflows, they also have an added property of direction.
- There are four types of direction:
  - In
  - Out
  - In/Out
  - Property

9) Explain in detail the steps involved to automate the task of Emptying trash in Gmail.

Ans)



The following are the six steps in our process flow:

1. Open Browser:

- Open Browser button in the recorder.
- A drop-down menu will appear.
- Again, choose Open Browser from the drop-down menu.
- It will ask to highlight the browser, highlight the already opened browser and click on the top of the browser.

2. Go to gmail.com:

- You will be prompted to enter the URL of the website to navigate to.
- Type https://mail.google.com and press OK.

3. Sign-In:

- Start recording by clicking on the Record icon of the recording panel.
- Go to the already open Gmail and click on the Email or Phone field.
- UiPath will pop up a prompt for typing the email.
- Type Email in the box provided by the UiPath recorder and press Enter.
- The Gmail textbox will automatically fill up with your typed content.
- Click on the NEXT button of the Gmail interface. It will also get recorded.
- Type your password in the text field of the popup that appears.
- Then, click NEXT to log in to your account. This will also get recorded.

4. Locate Trash Folder:

- We have to click on the search box of Gmail and type **in:trash** in the UiPath prompt and hit Enter.
- Click on the Search button beside the search box. It will also get recorded automatically and the Trash folder will appear.

5. Click on Empty Trash now:

- You can see a link showing Empty Trash now.
- Hover mouse on this link and it will get highlighted, click on it to delete all the messages in the Trash folder.

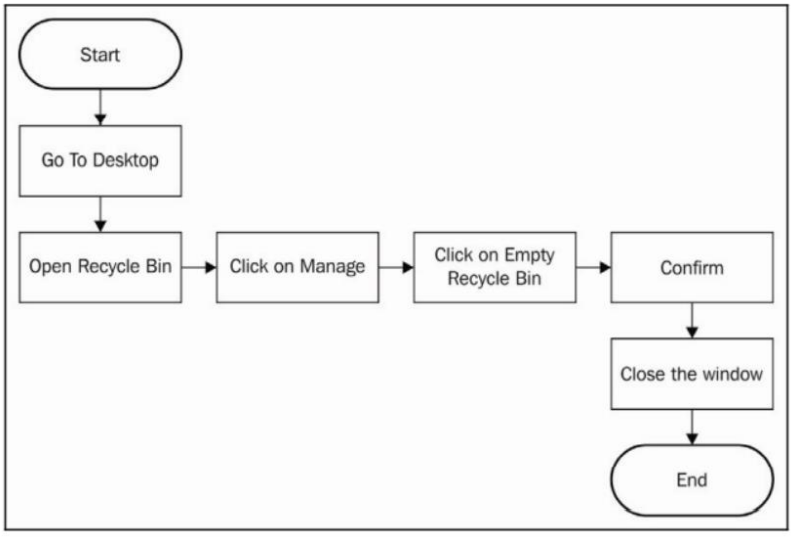
6. Confirm:

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

- In the indicate anchor wizard, we have to indicate the adjacent button, that is, the Cancel button, so that the recorder will identify that the button is adjacent to Cancel.
- Now recording is complete, press Esc to get to the recording dialog.
- Click on the Save & Exit button.

10) Explain in detail the steps involved to automate the task of Emptying Recycle Bin.

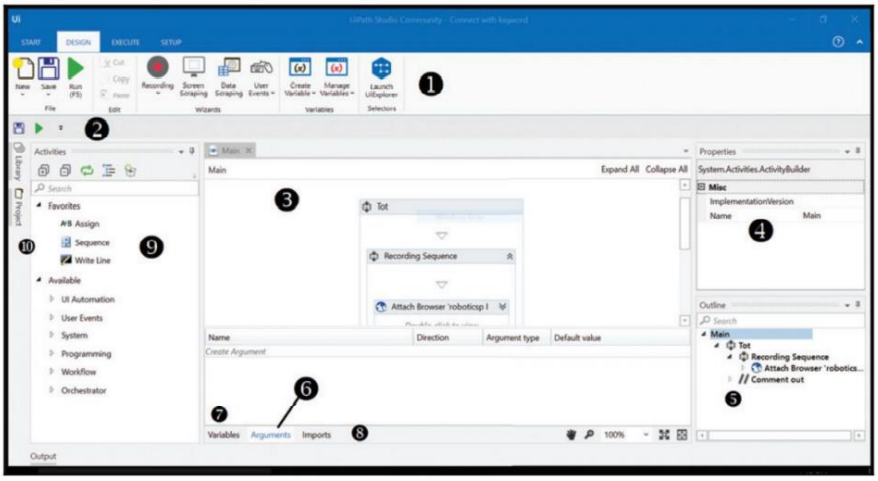
Ans)



1. Go to the desktop by pressing the Windows + D keys.
2. Open Recycle Bin by clicking on Recycle Bin and then pressing Enter key.
3. Click on the Manage tab of the Recycle Bin folder.
4. Click on the Empty Recycle Bin button.
5. Confirm by clicking on the Yes button in the dialog box.
6. Close the Recycle Bin folder by pressing the cross button.
7. Save it and press F5 to run it.

11) List the types of panels in UiPath.

Ans)



1. The Ribbon
2. Quick Access Toolbar
3. Designer panel
4. Properties panel
5. Outline panel
6. Arguments panel
7. Variable panel
8. Import panel
9. Activity panel
10. Library panel
11. Project panel
12. Output panel

12) List and Explain the Input Methods.

Ans) There are three types:

1. Default
2. Simulate
3. Window message

- Default is the generated method, while the other two are available in the Properties panel.
- There are two checkboxes for these two methods.

- The Default method is the slowest process and is the best way to test whether our input option is working or not.
- The other two methods work in the background.
- Out of these three methods, the Simulate type is the fastest method and is mostly preferred.
- This is because in the window message input type, it types only the lowercase characters.

13) List and Explain the Output Methods.

Ans) There are three types:

1. Native
2. Full text
3. OCR

(Explanation of these 3 types is there in 4th Module)