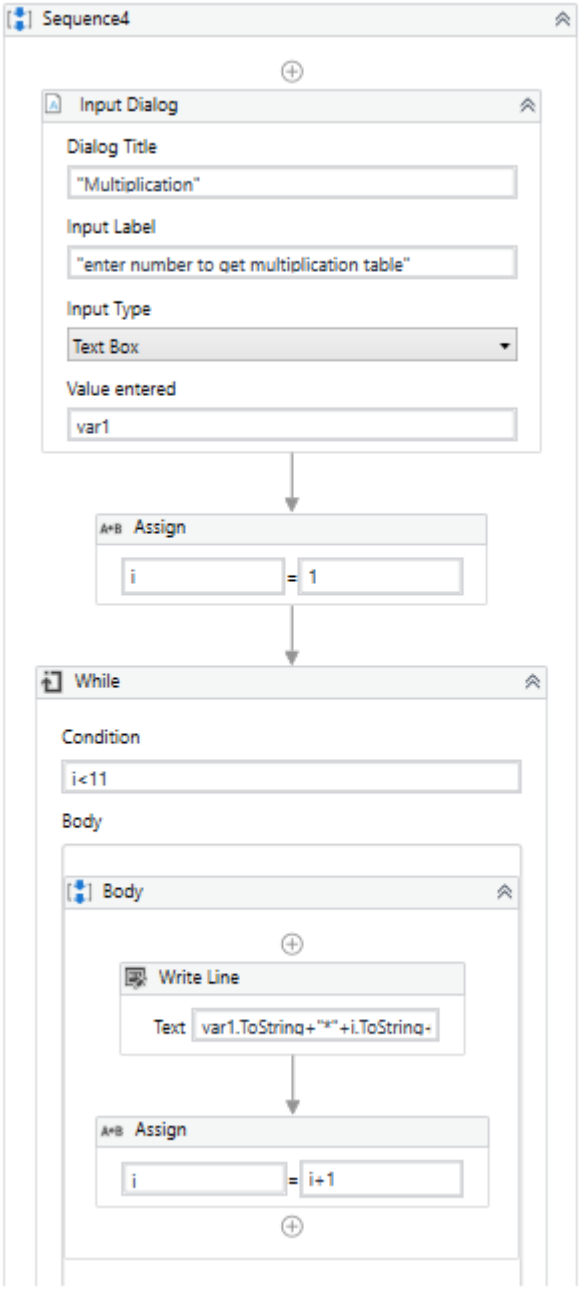
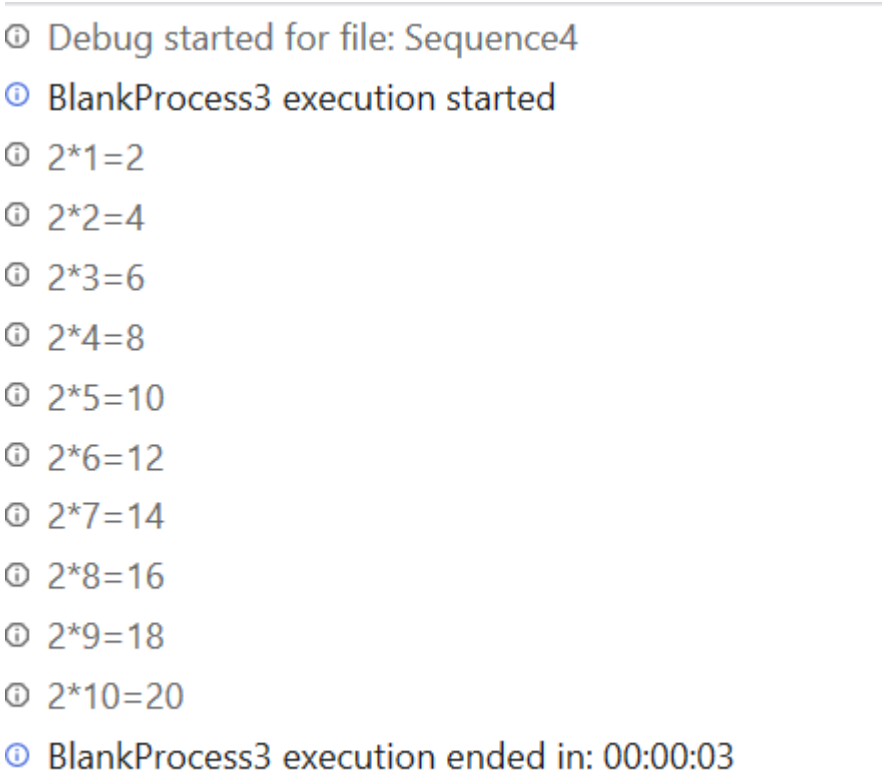
UIPath Session ASS 3:- Types or workflow (Sequence, Flowchart, Statemachine workflow) , Sequence as Reusable function, Arguments(In/Out) panel, OCR, Sreen scraping, Data extraction

Sol-



OUTPUT-



2) Write about the state machine, screen scraping, Data scraping and OCR techniques in a doc.

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STATE MACHINE

- A state machine uses a finite number of states in its execution.
- It can go into a state when it is triggered by an activity, and it exits that state when another activity is triggered.
- Another important aspect of state machines are transitions, as they also enable you to add conditions based on which to jump from one state to another. These are represented by arrows or branches between states.
- There are two activities that are specific to state machines, namely **State** and **Final State**, found under **Workflow > State Machine**.
- You can only create one initial state, yet it is possible to have more than one Final State.
- The **State** activity contains three sections, **Entry**, **Exit** and **Transition(s)**, while the **Final State** only contains one section, **Entry**.
- The **Entry** and **Exit** sections enable you to add entry and exit triggers for the selected state, while the **Transition** section displays all the transitions linked to the selected state.

- Transitions contain three sections, **Trigger**, **Condition** and **Action**, that enable you to add a trigger for the next state or add a condition under which an activity or sequence is to be executed.

SCREEN SCRAPING

- Output or screen scraping methods refer to those activities that enable you to extract data from a specified UI element or document, such as a .pdf file.
- To start extracting text from various sources, click the **Screen Scraping** button, in the **Wizards** group, on the **Design** ribbon tab.

- The screen scraping wizard enables you to point at a UI element and extract text from it, using one of the three output methods described above. Studio automatically choses a screen scraping method for you, and displays it at the top of the **Screen Scraper Wizard** window.

- When you are satisfied with the scraping results, click **Copy to Clipboard** and then **Finish**.

DATA SCRAPING

- Data scraping enables you to extract structured data from your browser, application or document to a database, .csv file or even Excel spreadsheet.
- Structured data is a specific kind of information that is highly organized and is presented in a predictable pattern.
- For example, all Google search results have the same structure. This structure enables to easily extract the information, as it always knows where to find it.
- The scraping wizard can be opened from the **Design** tab, by clicking the **Data Scraping** button.

- Data scraping always generates a container (**Attach Browser** or **Attach Window**) with a selector for the top-level window and an **Extract Structured Data** activity with a partial selector, thus ensuring a correct identification of the app to be scrapped.

- Additionally, the **Extract Structured Data** activity also comes with an automatically generated XML string (in the **ExtractMetadata** property) that indicates the data to be extracted.

- Lastly, all the scraped information is stored in a **DataTable** variable, that you can later use to populate a database, a .csv file or an Excel spreadsheet.
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OCR TECHNIQUES

- Citrix and other remote desktop utilities are usually the target of OCR-based activities, as they only stream an image of the desktop to the user, which means normal UI selectors are impossible to find.
- Certain applications are not compatible with the usage of normal scraping or UI automation technologies there comes the use of OCR techniques
- Activities in UiPath Studio which use OCR technology scan the entire screen of the machine, finding all the characters that are displayed.

- This enables the user to create automations based on what can be seen on the screen, simplifying automation in virtual machine environments.
- Various OCR techniques are- Double click, click, hover

1. Double Click OCR Text

UiPath.Core.Activities.DoubleClickOCRText

Searches for a given string in an indicated UI element or image using OCR technology and double-clicks it. By default, the Google OCR engine is used.

2. Click OCR Text

UiPath.Core.Activities.ClickOCRText

Searches for a given string in an indicated UI element or image using OCR technology and clicks it. By default, the Google OCR engine is used.

3. Hover OCR Text

UiPath.Core.Activities.HoverOCRText

Searches for a given string in an indicated UI element or image using OCR technology and hovers over it. By default, the Google OCR engine is used.

Get OCR Text extracts a string and its information from an indicated UI element using the OCR screen scraping method. This activity can also be automatically generated when performing screen scraping, along with a container.

Find OCR Text Position searches for a given string in an UI element, and returns a UIElement variable which contains the said string. This activity can be useful in locating UI elements relative to text on the screen

OCR Text Exists checks if a text is found in each UI element by using OCR technology and returns a Boolean variable that is true if the text exists and false otherwise.

OCR Engines, such as Google OCR, Google Cloud OCR, Microsoft OCR, Microsoft Cloud OCR and Abbyy Cloud OCR are also available as separate activities. These activities extract a string and its position from a provided image by using different OCR engines. These activities can be used with other OCR activities (Click OCR Text, Hover OCR Text, Double Click OCR Text, Get OCR Text, Find OCR Text Position).