**5. Data Manipulation**

### 5.1 Scalar variable- String Manipulations

**5.1.1 Objective**

Build a workflow using Format, Join, IndexOf, Split, and Substring methods that extract key information from a text and prints in a different format.

* + - * + Use the text "You always wanted to study Automation Training. The materials are available in the following places: UiPath Blog, UiPath Academy.” for extraction.
        + Extract “Automation Training” from the first sentence.
        + Extract “UiPath Blog” and “UiPath Academy” from the second sentence.
        + Display “get Automation Training from: UiPath Blog; UiPath Academy” in a message box.

**5.1.2 Process Overview**

* START
* Use an Assign activity for the initial value of the message string variable: "You always wanted to study Automation Training. The materials are available in the following places: UiPath Blog, UiPath Academy."
* Create a new String variable **study** and use a succession of String methods to assign the course from the query: **message.Split("."c).First.ToString.Substring(message.LastIndexOf("study"))**
  + **Split("."c).First.ToString** extracts the first sentence of the String and converts it to a String
  + **Substring(message.LastIndexOf("study"))** extracts the Substring starting from "get"
* Create a new List variable **places** and use a succession of String methods to assign the places from the query: **message.Split("."c)(1).ToString.Split(":"c).Last.ToString.Split(","c).ToList**
  + **message.Split("."c)(1).ToString** extracts the second sentence of the String and converts it to a String.
  + **Split(":"c).Last.ToString** splits the remaining string and keeps only the last part of it.
  + **Split(","c).ToList** takes each string separated by comma and adds it as an element in the List variable.
* Use a Message Box activity to display output using this expression:

#### String.Format(“{0} from: {1}”, study ,String.Join(";“, places))

* + **String.Join** is used to extract each element in the “places” List variable and display them.
* STOP

**5.1.3 Step by Step Process**

Step 1: Open UiPath Studio.

Step 2: Create a new process and name it as “String Manipulations - Practice 1”

Step 3: Drag a Sequence activity from the Activities panel and drop it in the Designer panel.

Step 4: Name the Sequence activity as “Sequence – ‘String Manipulation.’”

Step 5: Right-click on the Sequence activity container and select *Annotations* from the context menu.

Step 6: Enter the annotation : “This block of code demonstrates a workflow that performs string manipulation on a pre-defined Message.”

Step 7: In the Variables panel, create three variables as shown below:

|  |  |  |  |
| --- | --- | --- | --- |
| Name | Variable type | Scope | Default |
| message | String | Sequence - String Manipulation |  |
| study | String | Sequence - String Manipulation |  |
| places | List<String> | Sequence - String Manipulation |  |

Step 8: Drag and drop an Assign activity in the Sequence activity and name it as “Assign- Message”. Add an annotation “Pre-defining the message” and enter values as shown below:

|  |  |
| --- | --- |
| To | Value |
| message | "You always wanted to study Automation Training. The materials are available in the following places:  UiPath Blog, UiPath Academy." |

Step 9: Insert another Assign activity and name it as “Assign- Extracting (Automation Training)”.

Step 10: Right-click on the Assign activity container, and select *Annotations* from the context menu.

Step 11: Add an annotation shown below:

“1. Split("."c).First.ToString extracts the first sentence of the String and converts it to a String

2. Substring(message.LastIndexOf("study")) extracts the Substring from "study"”

Step 12: In the Assign activity, enter values as shown below:

|  |  |
| --- | --- |
| To | Value |
| study | message.Split("."c).First.ToString.Substring(message.LastInde  xOf("study")) |

Step 13: Insert another Assign activity and name it as “Assign – Extracting (UiPath Blog and UiPath Academy)”.

Step 14: Right-click on Assign activity container, and select *Annotations* from the context menu.

Step 15: Add an annotations as shown below:

“1. message.Split("."c)(1).ToString extracts the second sentence of the String and converts it to a String.

2. Split(":"c).Last.ToString splits the remaining String and keeps only the last part of it.

3. Split(","c).ToList takes each string separated by a comma and adds it as an element in the List variable”.

Step 16: In the Assign activity, enter values as shown below:

|  |  |
| --- | --- |
| To | Value |
| places | message.Split("."c)(1).ToString.Split(":"c).Last.ToString.Split(  ","c).ToList |

Step 17: Insert a Message Box activity and right-click on Message Box container, and select *Annotations* from the context menu.

Step 18: Add an annotation “In this expression, String.Join is used to extract each element in the “places” List variable and display them”.

Step 19: In the text area of the Message Box activity enter the expression:

#### String.Format(“{0} from: {1}”, study ,String.Join(";“, places))

Step 20: Save and run the workflow.