## 4.2 While Loop

Objective

Build a workflow using a While loop that tells the user if the input is a prime number or not.

* Ask the user to input a number.
* Check if it is a prime number.
* If the input number is prime, then display "It is a prime number" in a message box.
* If the input number is not prime, then display "It is not a prime number" in a message box.

Step by Step Process

Step 1: Open UiPath Studio.

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| --- | --- |
| Step 2: | Create a new process and name it as “While Activity”. |
| 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 – ‘This is the code to test whether the input is a prime number or not.’” |
| Step 5: | Insert an Input Dialog activity within the Sequence activity, name it as “Input Dialog – ‘To take the input from the user’” |
| Step 6: | In the Input Dialog activity, enter values as shown below: |

|  |  |
| --- | --- |
| Title | Label |
| “Number” | “Enter a number” |

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

|  |  |  |  |
| --- | --- | --- | --- |
| Name | Variable type | Scope | Default |
| intNumber | Int32 | Sequence – ‘This is the code to test whether the input is a prime number or not.’ |  |
| intRandom | Int32 | Sequence – ‘This is the code to test whether the input is a prime number or not.’ | 2 |
| intCount | Int32 | Sequence – ‘This is the code to test whether the input is a prime number or not.’ | 0 |

Step 8: Go to the Properties panel of the Input Dialog activity and insert intNumber

in its Output property.

Step 9: Insert a While activity below the Input Dialog activity and name it as “While – ‘To check if the number is a prime number or not’”.

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| --- | --- |
| Step 10: | Inside the While activity, enter the condition as intRandom < intNumber |
| Step 11: | In the Body section of the While activity drag and drop a Sequence activity. |
| Step 12: | Rename the Sequence activity to “Sequence – ‘Check the number using ‘If’”. |
| Step 13: | Insert an If activity inside the Sequence activity. |
| Step 14: | Inside the If activity, enter the condition as intNumber Mod intRandom = 0. |
| Step 15: | Inside the Then section of the If activity, insert an Assign activity, and enter |

values as shown below:

|  |  |
| --- | --- |
| To | Value |
| intCount | intCount + 1 |

|  |  |
| --- | --- |
| Step 16: | Change the Assign activity name to “Assign – ‘Increment the value of intCount’”. |
| Step 17: | Below the If activity, insert another Assign activity and rename it to “Assign- Incrementing the value of ‘intRandom’. |
| Step 18: | In the Assign activity, enter the values as shown below: |

|  |  |
| --- | --- |
| To | Value |
| intRandom | intRandom +1 |

|  |  |
| --- | --- |
| Step 19: | Below the While activity, insert an If activity and name it as “If – Print the message”. |
| Step 20: | Inside the If activity, enter the condition intCount >0. |
| Step 21: | In the Then section, insert a Message Box activity and name it as “Message Box - Not a prime number”. |
| Step 22: | Enter the text “It is not a prime number.” |
| Step 23: | In the Else section, insert another Message Box activity and name it as “Message Box - Is a prime number”. Add an annotation “Displays that the number is not a prime.” |
| Step 24: | Enter the text “It is a prime number.” |
| Step 25: | Save and run the workflow. |
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