Assessment: Lab exercise 1

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# Understand the Problem

This program will draw a tree in the below shape and demonstrate my name (Yanzhang Wu)

A picture containing diagram

Description automatically generated

Figure 1. Expected Output

This program do not need any inputs. I will print out punctuations line by line starting from the 1st line “~~~~~~~~” to the last line “Program by Yanzhang WU”

# Pseudocode

Start

Output " ~~~~~~"

Output " ~~~~~~~~~~ "

Output "~~~~~~~~~~~~~~~~~~~"

Output "~~~~~ ~~~~~ "

Output " || || ~~~"

Output " || || ~~~~~~"

Output " || | ||"

Output " | ||=======||"

Output " | |"

Output " | O |"

Output " | |"

Output " | |"

Output " || ||"

Output "\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*"

Output "\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*"

Output "Program by Yanzhang Wu"

Stop

# Flowchart

Diagram

Description automatically generatedA screenshot of a computer

Description automatically generated with low confidenceDiagram

Description automatically generated

# Test Plan

The algorithm will be tested using the table below

|  |  |  |  |
| --- | --- | --- | --- |
| Input | Expected Output | Actual Output | Description |
| None | ~~~~~~  ~~~~~~~~~~  ~~~~~~~~~~~~~~~~~~~  ~~~~~ ~~~~~  || || ~~~  || || ~~~~~~  || | ||  | ||=======||  | |  | O |  | |  | |  || ||  \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*  \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*  Program by Yanzhang Wu |  |  |

# Source Code

The snapshot of the source code is demonstrated as below

Graphical user interface

Description automatically generated with medium confidence

Figure 2. Source Code

The snapshot of the output is as follows

A picture containing diagram

Description automatically generated

Figure 3. Actual Output

# Test Plan for the Program

|  |  |  |  |
| --- | --- | --- | --- |
| Input | Expected Output | Actual Output | Description |
| None | ~~~~~~  ~~~~~~~~~~  ~~~~~~~~~~~~~~~~~~~  ~~~~~ ~~~~~  || || ~~~  || || ~~~~~~  || | ||  | ||=======||  | |  | O |  | |  | |  || ||  \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*  \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*  Program by Yanzhang Wu | ~~~~~~  ~~~~~~~~~~  ~~~~~~~~~~~~~~~~~~~  ~~~~~ ~~~~~  || || ~~~  || || ~~~~~~  || | ||  | ||=======||  | |  | O |  | |  | |  || ||  \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*  \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*  Program by Yanzhang Wu | The actual output is identical to the expected output |