

Lab 2

Direction: Submit the typed source code from git url.

Tic Tac Toe

For this lab, you will define essential functions to play Tic-Tac-Toe which is implemented by using nine (9) global char variables. The variables and their associated position on the board are:

| | | |
|----------|----------|----------|
| <i>a</i> | <i>b</i> | <i>c</i> |
| <i>d</i> | <i>e</i> | <i>f</i> |
| <i>g</i> | <i>h</i> | <i>i</i> |

Your group will have to rewrite the given functions so that they perform their descriptions correctly.

I.

| | |
|----------------------|-------------------------------|
| Name: | <code>initialize()</code> |
| Parameter(s): | nothing |
| Return: | nothing |
| Description: | assigns '-' to each variable. |

II.

| | |
|----------------------|--|
| Name: | <code>verticalWinner()</code> |
| Parameter(s): | nothing |
| Return: | bool |
| Description: | returns true if any vertical line consists of the same non-blank character; otherwise, it returns false. |

III.

| | |
|----------------------|--|
| Name: | <code>horizontalWinner()</code> |
| Parameter(s): | nothing |
| Return: | bool |
| Description: | returns true if any horizontal line consists of the same non-blank character; otherwise, it returns false. |

IV.

| | |
|----------------------|--|
| Name: | <code>diagonalWinner()</code> |
| Parameter(s): | nothing |
| Return: | bool |
| Description: | returns true if any diagonal line consists of the same non-blank character; otherwise, it returns false. |

V.

| | |
|----------------------|---|
| Name: | <code>winner()</code> |
| Parameter(s): | nothing |
| Return: | bool |
| Description: | returns true if any vertical, horizontal, or diagonal line consists of the same non-blank character; otherwise, it returns false. |

VI.

| | |
|----------------------|--|
| Name: | <code>hasMove()</code> |
| Parameter(s): | nothing |
| Return: | bool |
| Description: | returns true if any variable is equal to the blank character; otherwise, it returns false. |

VII.

| | |
|----------------------|---|
| Name: | <code>makeMove()</code> |
| Parameter(s): | <i>position</i> : int <i>token</i> : char |
| Return: | bool |
| Description: | if the variable associated with <i>position</i> is a blank character, it assigns the variable <i>token</i> and returns true. Otherwise, it just returns false. Positions from top-left to bottom-right are 1 through 9. |

VIII.

| | |
|----------------------|--|
| Name: | <code>board()</code> |
| Parameter(s): | nothing |
| Return: | string |
| Description: | returns a string that displays the values of the variables in the same formats and order as the image above with a newline before and after the image. |