

## Code Challenge “Tic-Tac-Toe”

Your task is to write a game of Tic-Tac-Toe. Where the user plays against the computer. As you may know the rules of the game are as follows:

- The game is played on a grid that is three squares by three squares.
- You are X and the computer is O.
- Players take turns putting their marks in empty squares.
- The first player to fill three squares in a row with their marks (up, down, across, or diagonally) wins.
- When all nine squares are full, the game is over.
- If no player has three marks in a row, the game ends in a tie.

You can use the terminal interface or a web interface – you choose based on the time you have.

A terminal interface might look as simple as this:

```
O X O
X O X
O X O
```

You can make the interface look however you want as long as the game functions properly.

### **REQUIREMENTS:**

- Ask the user if they want to go first or if they want the computer to go first.
- The program must restrict the valid character to “X” (remember “O” is the computer)
  - What happens if they use an invalid character is up to you
- Your program cannot allow the user or the computer to overwrite a previous mark.
- Your program must let the user know who wins after the winning mark is placed or if the game is a tie (no one wins, but all of the squares are full).
- When the game is finished, offer the player the opportunity to play again
  - If the player wants to go another round, start the game again
  - If the player wants to quit, thank the player and close the program

You can add extra features if you have time.

### **HINTS:**

- Create a plan – do not start programming if you do not know what you are going to do, it will cost you time in the end (sudo code and/or comments)
- Create method(s) or function(s) – find areas in your code that can be repeated and separate it out
- Test as you build – If you try to write all of the code at once before you test, it will be harder to find where any issues are