

Test

Test Num	Description of Test	Test data	Expected outcome	Actual Outcome	Comments and fixes
1	The game will check if a player has won: to do this, it will see if the same character is displayed horizontally, vertically, diagonally.	Have player one place an "X" in the same column.	The game will say that player one has won.	Game output message: "Player 1 has won."	Test was successful, no changes were needed.
<pre> x x x ----- o ----- o Player 1 has won. Player 1's Points: 1 Player 2's Points: 0 </pre>					
2	The game will check if a position is already taken on the board.	Have player two place a character in the same place as player one.	The game will print an error message, stating that the position is already taken and so, the player can try again.	Game output message: "Error - this space is already taken."	Test was successful, no changes were needed.

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x |  | 
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 |  | 
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 |  | 

```

```

Player 2's Turn...
Enter your position between 1-9: 1
loading...

```

```

Error - this space is already taken

```

3

The game will check if the user's input for the location of their mark/character is out of range: this is because the only positions available are between 1 and 9.

Have a player type "15".

The game will print an error message, stating that the index is out of range and so, the player can try again.

IndexError: list index out of range.

I used an if statement and a while loop to ensure that the user would only type numbers between 1 and 9.

Before:

Player 1's Turn...
Enter your position between 1-9: 15

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IndexError                                Traceback (most recent call last)
<ipython-input-2-6fc1c8a6f93e> in <module>()
    132 print("Player 1 = X and Player 2 = O") # indicates to the players which character they will represent
    133 print()
--> 134 RunGame(GameRunning)
    135 print()
    136 CheckResult(board)

<ipython-input-2-6fc1c8a6f93e> in RunGame(GameRunning)
    85
    86     print()
--> 87     if(CheckMark(choice)):
    88         board[choice] = Mark # game will input the player's chosen position onto the board
    89         player+=1

<ipython-input-2-6fc1c8a6f93e> in CheckMark(x)
    30
    31 def CheckMark(x):
--> 32     if(board[x] == " "): # checks whether there is a space available
    33         return True # if so, the game will carry on running
    34     else:

IndexError: list index out of range
```

After:

Player 1's Turn...
Enter your position between 1-9: 15
Error - choose a number between 1 and 9.

4	The game will check if the user's input for the location of their mark/character is an erroneous data type	Have a player type a letter or word, such as: "Hello".	The game will print an error message, stating that the index is an erroneous data type and so, the player can	ValueError: invalid literal for int() with base 10: 'Hello'	I used try and except within the previous while loop.
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	as an index.		try again.		
<p style="text-align: center;">Before:</p> <pre> Player 1's Turn... Enter your position between 1-9: hi ----- ValueError Traceback (most recent call last) <ipython-input-3-6fc1c8a6f93e> in <module>() 132 print("Player 1 = X and Player 2 = O") # indicates to the players which character they will represent 133 print() --> 134 RunGame(GameRunning) 135 print() 136 CheckResult(board) <ipython-input-3-6fc1c8a6f93e> in RunGame(GameRunning) 82 print("Player 2's Turn...") 83 Mark = "O" # player 2 will always represent "O" --> 84 choice = int(input("Enter your position between 1-9: ")) 85 86 print() ValueError: invalid literal for int() with base 10: 'hi' </pre> <hr/> <p style="text-align: center;">After:</p> <pre> Enter your position between 1-9: hi Error - that was not a valid number. Error - choose a number between 1 and 9. </pre>					
5	The game will check if the user's input to play again is invalid.	Have a player type a number instead of "Y" or "N".	The game will print an error message, stating that the user's input is invalid and so, the player can try again.	Game output message: "Something went wrong, please try again." and stops game.	I placed this into a function and returned it in order for the question to loop back and not stop the game entirely.
<p style="text-align: center;">Before:</p>					

```
would you like to play again? Y/N: 147
Something went wrong, please try again.
147
```

After:

```
would you like to play again? Y/N: y
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- - -
| |
- - -
| |
```

Player 1's Turn...

Enter your position between 1-9:

GitHub Repository Link: <https://github.com/JanetVoong/Tic-Tac-Toe>

Code Version 4: <https://github.com/JanetVoong/Tic-Tac-Toe/blob/master/Version-4-Testing.ipynb>