Planning

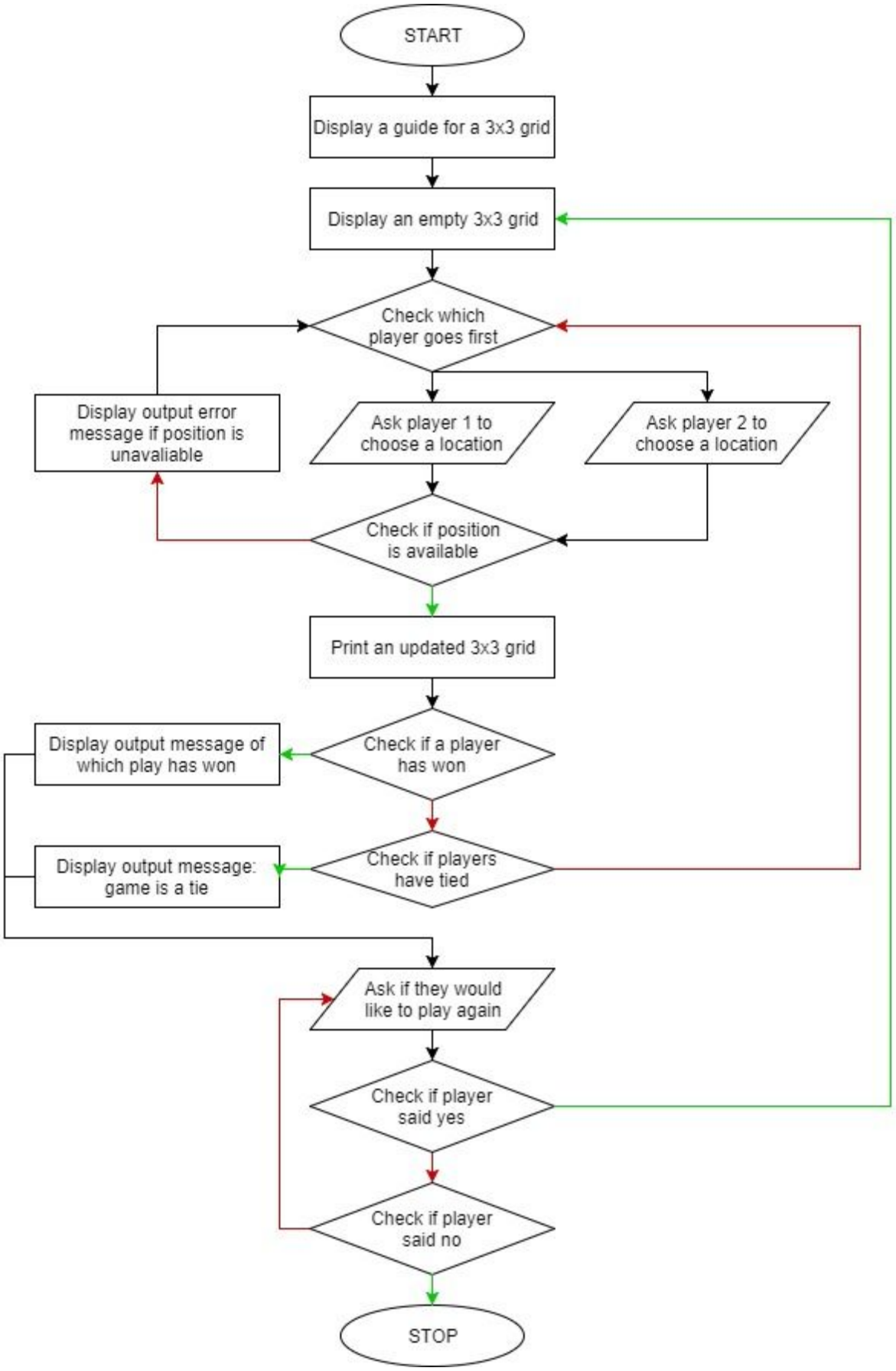
RULES / ASSUMPTIONS:

- There are two players and they are able to choose a character from "X" or "O" that they would like to represent.
- The two players are given or make a 3x3 grid.
- These two players will take turns filling out every free space.
- The game will stop if the same character is seen horizontally, vertically, diagonally, or when every space is no longer available (when no one wins, this is called a draw)

PLAN / VARIABLES:

- Grid (2D list)
- Mark/character ("X" or "O")
- Player ("1" or "2")

ALGORITHM / FLOWCHART: https://goo.gl/JnythU


START
Display a guide for a 3x3 grid
Display an empty 3x3 grid
Check which player goes first
Display output error message if position is unavaliable
Ask player 1 to choose a location
Ask player 2 to choose a location
Check if position is available
Print an updated 3x3 grid
Display output message of which play has won
Check if a player has won
Display output message: game is a tie
Check if players have tied
Ask if they would like to play again
Check if player said yes
Check if player said no
STOP

TEST PLAN:

Test Num	Description of Test	Test data	Expected outcome
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.
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.
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.
4	The game will check if the user's input for the location of their mark/character is an erroneous data type as an index.	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 try again.
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.