Rules for Tic Tac Toe

Planning

RULES

Tic tac toe is a simple game that involves two players taking it in turns to place naughts and crosses onto a nine by nine grid. The game continues until either all nine spots have been filled on the board or one player has successfully placed three of their counters in sequence horizontally, vertically or diagonally. E.g three noughts in a row. Once placed on the board. Counters cannot be moved or removed. Commonly, players ill flip a coin to determine who goes first.

PLAN

Variables and constants that I plan to use and their uses.

Variable or constant	**Data type**	**Planned use**
playerOneTurn	Boolean	Used to determine if it is player one's turn
playerTwoTurn	Boolean	Used to determine if it is player two's turn
boardFilled	Boolean	Used to determine if the board is filled or not
gameWon	Boolean	Used to determine if the game has been won
spaceFree	Boolean	Used to determine if the space that the player is trying to place a counter has already been taken
boardLayout	int	This will be the grid that they players will fill counters with
maxRow	int	Used to determine the current amount of counters in a row

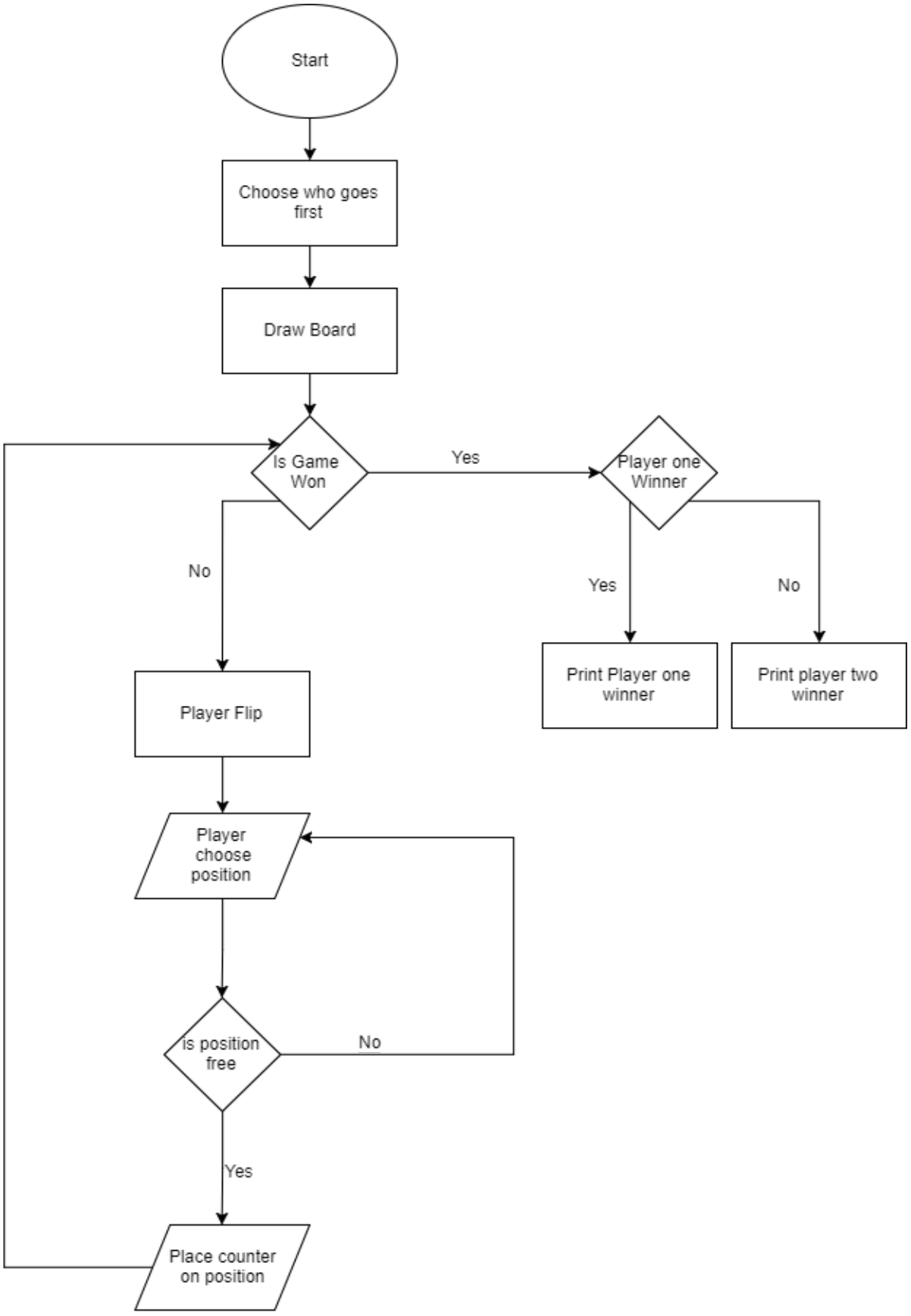
Files needed and their uses

File	Planned use
Crossimage	An image file containing the cross sprite
Noughtimage	An image file containing the nought image
BoardImage	An image file containing the board layout
Stats	Current highest win streaks and player names are stored here

Data structures needed and their uses

Data Structure	Planned use
Free spots	Used to determine if a player can use a spot
Board layout	Used to place number values to each spot on the board
Three	Length of list used to determine winner

Game plan flowchart



Test plan

Test Number	Test Description	Test type	Data inputted	Expected outcome	Actual outcome
1	Entering a value equal to an empty space on the grid	valid	2,3	A counter is placed on the correct space in the grid	
2	Entering a value that corresponds to an already taken spot	Invalid	2,2	The program asks the user to enter a different value.	
3	Entering a value that will win the game	boundary	1,3	The game will finish and a winning message will be displayed with the player who won.	
4	Entering a string instead of a number	erroneous	banana	Game will ask the user to try another value that is an integer.	