

Description

X-O game is a fun, traditional, and online browser game where you have to use your own strategies of placing 3 marks in a horizontal, vertical, or diagonal row. To win, you must be the first to get three of your marks in a row.

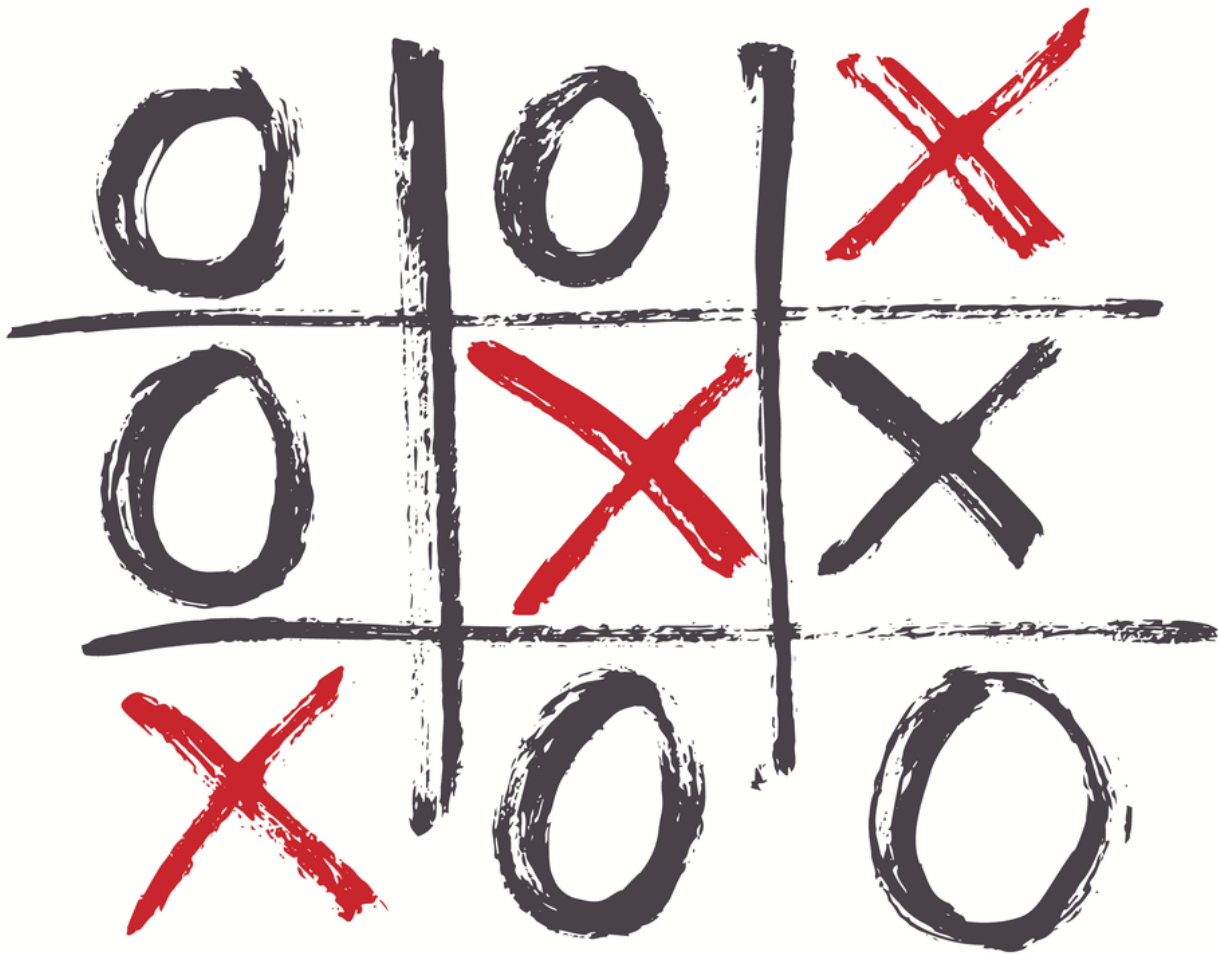


Figure1: X-O Game Board

Detailed Requirements

Requirement	Description	What to Delive
Implement and draw your board	<div>1. 1. A board will be initialized with numbers from 1 to 9, which state each position number</div> <div>2. Implement draw board function</div> <div>- Use this prototype void drawBoard(uint8_t *board);</div> <div>- This function will take a board as an input and prints it on the console</div> <div>2. Implement update board function</div> <div>- Use this prototype void updateBoard (uint8_t *board, uint8_t position, uint8_t value);</div> <div>- This function will take the board, position to update and value to set in this position</div>	Deliver these two functions as request and without changing their prototypes
Implement Players Config	<div>1. Only two players (Player 1 and Player 2)</div> <div>2. Implement the get player symbol function</div> <div>- Use this prototype, uint8_t getPlayerSymbol(uint8_t playerNumber, uint8_t * symbol);</div> <div>- This function will take the player's number and asks the player to choose between X and O (case insensitive)</div> <div>- This function will return 0 when the input symbol is not wrong and/or was not chosen before</div> <div>- This function will return 1 when the input symbol is wrong and/or was chosen before</div> <div>3. Implement set player config function</div> <div>- Use this prototype, void setPlayerConfig(uint8_t *configArray);</div> <div>- This function will prompt and asks each user about their preferred symbols and saves it in the configArray</div>	Deliver these two functions as request and without changing their prototypes
Implement selected player move	<div>1. Implement load and update function</div> <div>- Use this prototype, void loadAndUpdate(uint8_t playerNumber);</div> <div>- This function will take the player's number then load his config, ask him for the position then updates the board</div>	Deliver this function requested and witho changing its prototyp

Requirement	Description	What to Deliver
Implement winning condition check	<ol style="list-style-type: none"> 1. Implement a function to check if there is a winning, draw, or continue playing. - Use this prototype, void getGameState(uint8_t *board, uint8_t *gameState); - This function will check after each move if there is a win, draw or continue playing. - Returns 0 for winning - Returns 1 for a draw - Returns 2 to continue 	<p>Deliver this function requested and without changing its prototype</p>
Implement the main flow	<ol style="list-style-type: none"> 1. Implement the main flow according to your understanding of the game 	<p>Deliver the main function</p>
Test your main flow	<ol style="list-style-type: none"> 1. Test the main flow against the wrong symbol choice 2. Test the main flow against repeated symbol choice 3. Test the main flow against X player winning: <ul style="list-style-type: none"> - All Rows winning (3) - All Columns winning (3) - All Diagonals winning (2) 4. Test the main flow against O player winning: <ul style="list-style-type: none"> - All Rows winning (3) - All Columns winning (3) - All Diagonals winning (2) 5. Test the main flow against X player draw case at least three draw cases 	<ul style="list-style-type: none"> - Deliver all your code files - Deliver a video showing your execution for the test cases (video/test case)