

tictactoe

Create Directory Structure

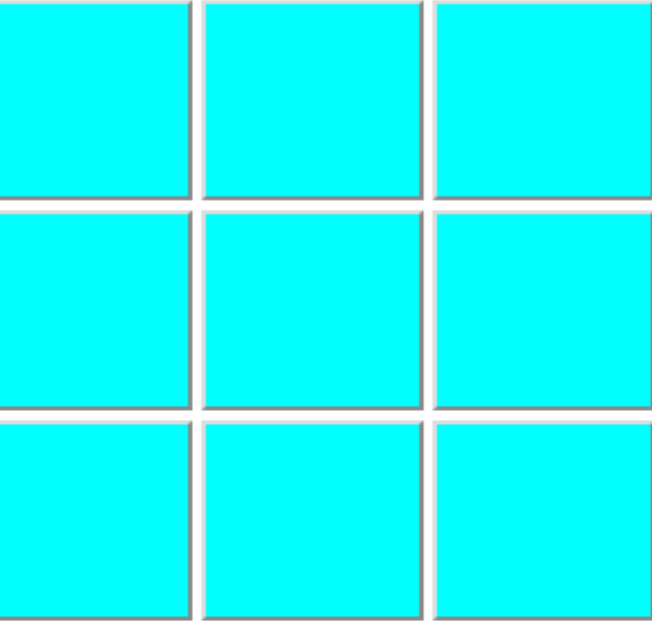
└─ tictactoe

 # design.css

 <> index.html

 JS logic.js

Create HTML Layout



Index.html(View)

- The HTML <script> tag is used for declaring a external script (such as design.css and logic.js) within HTML document.

```
<!DOCTYPE html>
```

```
<html lang="en">
```

```
<head>
```

```
  <meta charset="UTF-8">
```

```
  <meta name="viewport" content="width=device-width, initial-scale=1.0">
```

```
  <meta http-equiv="X-UA-Compatible" content="ie=edge">
```

```
  <title>TicTacToe</title>
```

```
  <link rel="stylesheet" href="design.css">
```

```
  <script src="logic.js"></script>
```


```
</head>
```

```

} <body>
|   <h2 id='result'></h2>
|   <table>
|       <tr>
|           <td><button></button></td>
|           <td><button></button></td>
|           <td><button></button></td>
|       </tr>
|       <tr>
|           <td><button></button></td>
|           <td><button></button></td>
|           <td><button></button></td>
|       </tr>
|       <tr>
|           <td><button></button></td>
|           <td><button></button></td>
|           <td><button></button></td>
|       </tr>
|   </table>
| </body>
}
| </html>

```

design.css

```
button {  
    width: 100px;  
    height: 100px;  
    background-color:  cyan;  
}
```

Steps

- User can enter 'x' or '0' on any button alternatively.
- Check inner text of any button is blank or not. If blank, then only user can enter 'x' or '0'.
- Check whether any row, column or diagonal is blank or not . If it is not blank, then check values are same or not(row, column or diagonal)
- If it is same, then game is over and shows winner

logic.js

- Establish connection between view and design.css.
- **addEventListener()** function will be called whenever the specified event is delivered to the target. Common targets are Element, Document, Window etc.
- The `querySelector()` method only returns the first element that matches the specified selectors. To return all the matches, use the [querySelectorAll\(\)](#) method instead.


```
window.addEventListener("load",bindEvents);  
var buttons ;  
var gameOver = false;  
function bindEvents(){  
    buttons = document.querySelectorAll('button');  
    for(let button of buttons){  
        button.addEventListener('click',isXOrZero);  
    }  
}
```



function

function isXOrZero()

- Used to put 'X' or '0' on any button
- Check game should not be over and the length of inner text of button should be zero(empty button), the player can put X or '0' respectively.

```
var xorzero = false; /* xorzero is a variable*/  
function isXOrZero(){  
    ...  
    if(gameOver==false && this.innerText.trim().length==0){ /* condition */  
        this.innerText = xorzero?'X':'0'; /*initial value is false so first time '0'*/  
        isGameOver();  
        xorzero = !xorzero; /* negation indication now xorzero variable contains "X"*/  
    }  
}
```

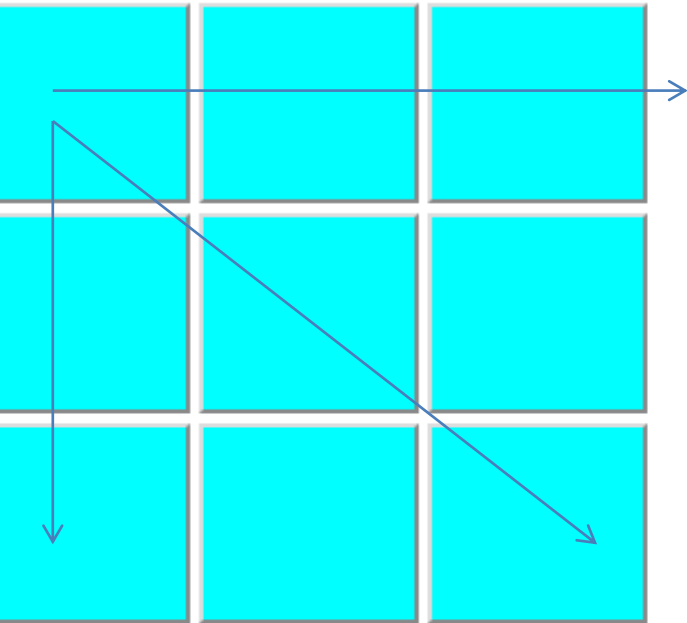
0		

function isRowNotBlank(one , two , three)

- Check whether the row, column or diagonal is blank or not. If it is not blank, then returns true otherwise false.
- It uses isNotBlank(), to check whether any button is blank or not.

```
function isRowNotBlank(one , two , three){  
    return isNotBlank(one) && isNotBlank(two) && isNotBlank(three);  
}
```

Create HTML Layout



Row

Function isNotBlank()

- Checks whether button is blank or not. If it is not blank, then returns true otherwise false.

```
const isNotBlank = str=>str.innerText.trim().length>0?true:false;
```

function isSame(one , two , three)

- Check row should not be blank.
- Check inner text of button one, two ,three in the same row should be same. Then function returns true otherwise false.

```
function isSame(one , two , three){  
    if(isRowNotBlank(one, two, three)){  
        return one.innerText == two.innerText && one.innerText == three.innerText;  
    }  
    else{  
        return false;  
    }  
}
```


function isGameOver()

- Check the value on buttons one, two, three should be same(call isSame()). If same then call the function winner().

```
function isGameOver(){  
    if(isSame(buttons[0],buttons[1],buttons[2])){  
        document.querySelector('#result').innerText = 'Game Over' + winner();  
        gameOver = true;  
    }  
    if(isSame(buttons[3],buttons[4],buttons[5])){  
        document.querySelector('#result').innerText = 'Game Over'+winner();  
        gameOver = true;  
    }  
}
```

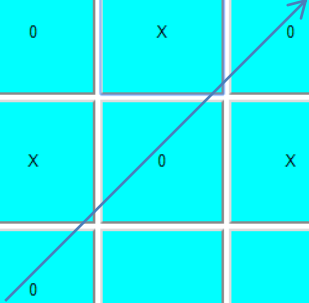
function winner()

- Returns the value of the winning player ('x' or '0')

```
function winner(){  
    return xorzero?'X':'0';  
}
```

Game Over

0	X	0
X	0	X
0		

A 3x3 tic-tac-toe board with a light blue background and black borders. The board contains the following content:

- Row 1: '0' in the first column, 'X' in the second column, '0' in the third column.
- Row 2: 'X' in the first column, '0' in the second column, 'X' in the third column.
- Row 3: '0' in the first column, empty in the second column, empty in the third column.

A black diagonal arrow points from the bottom-left cell (Row 3, Column 1) to the top-right cell (Row 1, Column 3).