This test, simple javascript tictactoe game, contains 3 files within this Word document:

1. Index.html
2. js/index.js
3. css/style.css

Candidates are expected to:

1. Optimize the code
2. Make the game scalable

**index.html**

<!DOCTYPE html>

<html lang="en" >

<head>

<meta charset="UTF-8">

<title>Tic Tac Toe game</title>

<link rel='stylesheet prefetch' href='https://getbootstrap.com/2.3.2/assets/css/bootstrap.css'>

<link rel="stylesheet" href="css/style.css">

</head>

<body>

<div id="tic-tac-toe">

<div class="span3 new\_span">

<div class="row">

<h1 class="span3">Tic Tac Toe</h1>

<div class="span3">

<div class="input-prepend input-append">

<span class="add-on win\_text">O won</span><strong id="o\_win" class="win\_times add-on">0</strong><span class="add-on">time(s)</span>

</div>

<div class="input-prepend input-append">

<span class="add-on win\_text">X won</span><strong id="x\_win" class="win\_times add-on">0</strong><span class="add-on">time(s)</span>

</div>

</div>

</div>

<ul class="row" id="game">

<li id="one" class="btn span1" >+</li>

<li id="two" class="btn span1">+</li>

<li id="three" class="btn span1">+</li>

<li id="four" class="btn span1">+</li>

<li id="five" class="btn span1">+</li>

<li id="six" class="btn span1">+</li>

<li id="seven" class="btn span1">+</li>

<li id="eight" class="btn span1">+</li>

<li id="nine" class="btn span1">+</li>

</ul>

<div class="clr">&nbsp;</div>

<div class="row"><a href="#" id="reset" class="btn-success btn span3" >Restart</a></div></div>

</div>

<script src='https://code.jquery.com/jquery-1.7.2.min.js'></script>

<script src="js/index.js"></script>

</body>

</html>

**js/index.js**

// JavaScript Document

$(document).ready(function() {

var x = "x"

var o = "o"

var count = 0;

var o\_win = 0;

var x\_win = 0;

$('#game li').click(function(){

if ($("#one").hasClass('o') && $("#two").hasClass('o') && $("#three").hasClass('o') || $("#four").hasClass('o') && $("#five").hasClass('o') && $("#six").hasClass('o') || $("#seven").hasClass('o') && $("#eight").hasClass('o') && $("#nine").hasClass('o') || $("#one").hasClass('o') && $("#four").hasClass('o') && $("#seven").hasClass('o') || $("#two").hasClass('o') && $("#five").hasClass('o') && $("#eight").hasClass('o') || $("#three").hasClass('o') && $("#six").hasClass('o') && $("#nine").hasClass('o') || $("#one").hasClass('o') && $("#five").hasClass('o') && $("#nine").hasClass('o') || $("#three").hasClass('o') && $("#five").hasClass('o') && $("#seven").hasClass('o'))

{

alert('O has won the game. Start a new game')

$("#game li").text("+");

$("#game li").removeClass('disable')

$("#game li").removeClass('o')

$("#game li").removeClass('x')

$("#game li").removeClass('btn-primary')

$("#game li").removeClass('btn-info')

}

else if ($("#one").hasClass('x') && $("#two").hasClass('x') && $("#three").hasClass('x') || $("#four").hasClass('x') && $("#five").hasClass('x') && $("#six").hasClass('x') || $("#seven").hasClass('x') && $("#eight").hasClass('x') && $("#nine").hasClass('x') || $("#one").hasClass('x') && $("#four").hasClass('x') && $("#seven").hasClass('x') || $("#two").hasClass('x') && $("#five").hasClass('x') && $("#eight").hasClass('x') || $("#three").hasClass('x') && $("#six").hasClass('x') && $("#nine").hasClass('x') || $("#one").hasClass('x') && $("#five").hasClass('x') && $("#nine").hasClass('x') || $("#three").hasClass('x') && $("#five").hasClass('x') && $("#seven").hasClass('x'))

{

alert('X wins has won the game. Start a new game')

$("#game li").text("+");

$("#game li").removeClass('disable')

$("#game li").removeClass('o')

$("#game li").removeClass('x')

$("#game li").removeClass('btn-primary')

$("#game li").removeClass('btn-info')

}

else if (count == 9)

{

alert('Its a tie. It will restart.')

$("#game li").text("+");

$("#game li").removeClass('disable')

$("#game li").removeClass('o')

$("#game li").removeClass('x')

$("#game li").removeClass('btn-primary')

$("#game li").removeClass('btn-info')

count = 0

}

else if ($(this).hasClass('disable'))

{

alert('Already selected')

}

else if (count%2 == 0)

{

count++

$(this).text(o)

$(this).addClass('disable o btn-primary')

if ($("#one").hasClass('o') && $("#two").hasClass('o') && $("#three").hasClass('o') || $("#four").hasClass('o') && $("#five").hasClass('o') && $("#six").hasClass('o') || $("#seven").hasClass('o') && $("#eight").hasClass('o') && $("#nine").hasClass('o') || $("#one").hasClass('o') && $("#four").hasClass('o') && $("#seven").hasClass('o') || $("#two").hasClass('o') && $("#five").hasClass('o') && $("#eight").hasClass('o') || $("#three").hasClass('o') && $("#six").hasClass('o') && $("#nine").hasClass('o') || $("#one").hasClass('o') && $("#five").hasClass('o') && $("#nine").hasClass('o') || $("#three").hasClass('o') && $("#five").hasClass('o') && $("#seven").hasClass('o'))

{

alert('O wins')

count = 0

o\_win++

$('#o\_win').text(o\_win)

}

}

else

{

count++

$(this).text(x)

$(this).addClass('disable x btn-info')

if ($("#one").hasClass('x') && $("#two").hasClass('x') && $("#three").hasClass('x') || $("#four").hasClass('x') && $("#five").hasClass('x') && $("#six").hasClass('x') || $("#seven").hasClass('x') && $("#eight").hasClass('x') && $("#nine").hasClass('x') || $("#one").hasClass('x') && $("#four").hasClass('x') && $("#seven").hasClass('x') || $("#two").hasClass('x') && $("#five").hasClass('x') && $("#eight").hasClass('x') || $("#three").hasClass('x') && $("#six").hasClass('x') && $("#nine").hasClass('x') || $("#one").hasClass('x') && $("#five").hasClass('x') && $("#nine").hasClass('x') || $("#three").hasClass('x') && $("#five").hasClass('x') && $("#seven").hasClass('x'))

{

alert('X wins')

count = 0

x\_win++

$('#x\_win').text(x\_win)

}

}

});

$("#reset").click(function () {

$("#game li").text("+");

$("#game li").removeClass('disable')

$("#game li").removeClass('o')

$("#game li").removeClass('x')

$("#game li").removeClass('btn-primary')

$("#game li").removeClass('btn-info')

count = 0

});

});

**css/style.css**

/\*\*\*\*\*\*\*tic-tac-toe\*\*\*\*\*\*/

#tic-tac-toe .disable {text-transform:uppercase; font-size:30px; font-family:Georgia, "Times New Roman", Times, serif}

#tic-tac-toe #game li {float:left; padding:0; list-style:none; text-align:center; margin-bottom:20px; color:#fff; height:60px; line-height:60px; font-size:40px; color:#ccc}

#tic-tac-toe #game li.disable{color:#fff}

#tic-tac-toe #game {float:left; padding:0; clear:both}

.new\_span {width:226px}

#tic-tac-toe #reset { padding:5px 10px; color:#fff; font-family:Arial, Helvetica, sans-serif; font-size:20px; clear:both; cursor:pointer; float:left; text-align:center; text-transform:uppercase; outline:none; width:204px}

.input-prepend span.pre\_text {width:55px}

.input-prepend .span1{width:93px}

.input-prepend {margin-bottom:10px}

.clr {clear:both; height:0}

#tic-tac-toe h1 {text-align:center; font-size:28px}

#tic-tac-toe li::-moz-selection {background:none;color:#000;}

#tic-tac-toe li::-webkit-selection {background:none;color:#000;}

#tic-tac-toe {width:220px; margin:0 auto}

.input-append .win\_times {background:#fff; width:101px}

.input-append .win\_text {width:52px}

/\*\*\*\*\*\*\*tic-tac-toe END\*\*\*\*\*\*/