

# Assignments

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## PE01

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

<head>
  <title>Trevors' Webpage</title>
  <link rel="stylesheet" href="style.css" />
  <meta name="author" content="Trevor Sparks" />
  <style>
    .button {
      border: none;
      color: white;
      padding: 16px 32px;
      text-align: center;
      text-decoration: none;
      display: inline-block;
      font-size: 16px;
      margin: 4px 2px;
      transition-duration: 0.4s;
      cursor: pointer;
    }
  </style>
</head>

<body>
  <p>Hello City University of Seattle!</p>
  <a href="https://www.cityu.edu" class="cityULink" target="_blank">City
University of Seattle homepage</a>
  <h2>What Can JavaScript Do?</h2>
  <p>JavaScript can change HTML attribute values.</p>
  <p>
```

In this case JavaScript changes the value  
of the src (source) attribute of an image.

```

</p>
<button type="reset" id="ON"
onclick="document.getElementById('MyLight').src='light'">
  
  
  On/Off
</button>
</body>

</html>

```

## PE02

```

```js
// Gets litbulb photo info and sets the lighbulb to
// the off lightbulb photo
var lightbulb = document.getElementById('lightbulb')
lightbulb.src = "pic_bulboff.gif"

// Gets litbulb button info and sets the lighbulb to
// the off lightbulb button text to "off"
var lightswitch = document.getElementById('switch')
var stateOfLightswitch = document.getElementById('switch').innerText;
lightswitch.innerText = "Off"

// The function below turns on an off the lightbulb with an if statement.
lightswitch.onclick = function() {
  if(lightswitch.innerText == "On") {
    lightswitch.innerText = "Off"
    lightbulb.src = "pic_bulboff.gif"
  } else {
    lightswitch.innerText = "On"
    lightbulb.src = "pic_bulbon.gif"
  }
}
```

```

### 1. index.html

```

<!DOCTYPE html>
<html lang="en">
  <head>
    <title>Trevors' Webpage</title>
    <link rel="stylesheet" href="style.css">
    <meta name="author" content="Trevor Sparks"/>
  </head>
  <body>

```

```
<h1>PE01</h1>
<p>Hello City University of Seattle!</p>
<a href="https://www.cityu.edu" class="cityULink"
target="_blank">City Univeristy of Seattle homepage</a><br>

<h1>PE02</h1>
<img id="lightbulb"><br>
<button id="switch"></button><br>
<a href="https://www.w3schools.com/js/js_intro.asp"
target="_blank">Lightbulb photos from W3 school</a><br>

<script src="main.js"></script>
</body>
</html>
```

## PE03

### Task #1

```
// Declaring Variables
var firstName:string;
var lastName:string;
var fullName:string;
var age:number;
var ukCitizen: boolean;

// Initilizing variables
firstName = 'Rebecca';
lastName = 'Smith';
age = 42;
ukCitizen = false;
fullName = firstName + ' ' + lastName;

// If else statement that checks if the bool value of 'ukCitizen' is true
if(ukCitizen){
    console.log("My name is " + fullName + ", I'm " + age + ", and I'm a citizen
of the United Kingdom.");
} else {
    console.log("My name is " + fullName + ", I'm " + age + ", and I'm not a
citizen of the United Kingdom.");
}
```

### Task #2

```
// Declaring variables
var x: number;
var y: number;
var a: number;

// Initializing variables
```

```
x = 5;
y = 7;
a = x+y;

// Outputting the value of a
console.log(a);
```

### Task #3

```
// Declaring variables
// The value of randomNumbers is initialized to an empty array
var randomNumbers: number[] = [];
var nextNumber: number;

// Pushes random numbers to the randomNumber array
for (let i = 0; i < 10; i++) {
    nextNumber = Math.floor(Math.random() * (100 - 1)) + 1;
    randomNumbers.push(nextNumber);
}

// Outputs the randomNumbers array
console.log(randomNumbers);
```

### PE04

```
//let pizzaSlices:string[] = ["Cheese", "Peperoni", "Sausage", "BBQ", "Mac & Cheese", "Chicken Alfredo"];

let pizzaSlices =[
    {
        name: "Cheese",
        type: "Vegetarian",
        price: 40
    },{
        name: "Pepperoni",
        type: "Meat",
        price: 35
    },{
        name: "Sausage",
        type: "Meat",
        price: 35
    },{
        name: "BBQ Chicken",
        type: "Meat",
        price: 35
    },{

```

```

      name: "Mac & Cheese",
      type: "Vegetarian",
      price: 40
    }, {
      name: "Chicken Alfredo",
      type: "Meat",
      price: 35
    }
  ]

  const transactions = [
    {slices: ["Mac & Cheese", "Mac & Cheese", "Pepperoni", "Pepperoni", "BBQ Chicken"], cost: 220},
    {slices: ["Cheese", "Pepperoni", "Pepperoni", "Chicken Alfredo", "Pepperoni", "Cheese"], cost: 200},
    {slices: ["Chicken Alfredo", "Mac & Cheese", "BBQ Chicken", "Chicken Alfredo"], cost: 145},
    {slices: ["Sausage", "BBQ Chicken", "BBQ Chicken", "BBQ Chicken", "Sausage", "Sausage", "Chicken Alfredo"], cost: 245},
    {slices: ["Chicken Alfredo", "Mac & Cheese", "BBQ Chicken"], cost: 110}
  ]

  var totalSales: number = 0 ;

  totalSales = transactions.reduce((totalSum, currentSum) => totalSum + currentSum.cost, 0);

  console.log(`You've made ${totalSales} today!`);

  for(let i = 0; i < transactions.length; i++){
    const currentTransactionSlice = transactions[i].slices;
    console.log(currentTransactionSlice);

    let pizzaSum = currentTransactionSlice.reduce(...);
  }

```

## PE05

```

// Upper and lower limit set
const upperLimit: number = 21;
const lowerLimit: number = 0;
// Initialization of userInput var
let userInput: number;

//Function to get user input
function getUserInput(): number{
  // Use prompt to prompt the user for input, and the number function to
  // convert the recived string to a nuneber
  userInput = Number(prompt('Please input a number between 1 and 20'));
}

```

```
// call the validate user function to make sure the user input a valid number
validateUserInput(upperLimit, lowerLimit, userInput);
return userInput;
}

// function to validate user input. It checks to see if the users input is in
// between two
// pre-specified values
function validateUserInput(upperLimit: number, lowerLimit: number, userInput:
number){
    if(userInput > lowerLimit && userInput < upperLimit){
        return userInput;
    }else{
        console.log("The number is too high or too low");
        getUserInput();
    }
}

// Task 2 function
function someFunction(p1: number, p2: number):number{
    if(p1 <= 0){
        return p2;
    }else{
        p2 = p1 * p2;
        p1--;
        return someFunction(p1,p2);
    }
}

// recursive function to calculate the Fibonacci sequence at the user specified
// index
function calcFibb(input:number){
    if(input === 1){
        return 0;
    }else if(input === 2){
        return 1;
    }else{
        return calcFibb(input-2)+calcFibb(input-1);
    }
}

// function to call the get user function, calculate the other
// necessary numbers, and output HTML to the webpage
function whenTheButtonIsClicked(){
    getUserInput();
    let task2FunctionAnswer = someFunction(userInput, userInput);
    let calcedFib = calcFibb(userInput);
    let outputHTML = document.getElementById('output');
    outputHTML.innerHTML = <p>The user input: `${userInput}`</p>
        <p>Task 2 function answer: `${task2FunctionAnswer}`</p>
        <p>The value of the Fibonacci sequence at the
`${userInput}` position is `${calcedFib}`</p>;
}
```

```

<!DOCTYPE html>
<html lang="en">
<head>
  <meta charset="UTF-8">
  <meta http-equiv="X-UA-Compatible" content="IE=edge">
  <meta name="viewport" content="width=device-width, initial-scale=1.0">
  <title>PE05 - Trevor Sparks</title>
  <script type="text/javascript" src="PE05.js"></script>
</head>
<body>
  <h1>Click the button to perform calculations and get user input</h1>
  <button onclick="whenTheButtonIsClicked();">Click me!</button>
  <div id="output"></div>
</body>
</html>

```

```

<!DOCTYPE html>
<html lang="en">
<head>
  <meta charset="UTF-8">
  <meta http-equiv="X-UA-Compatible" content="IE=edge">
  <meta name="viewport" content="width=device-width, initial-scale=1.0">
  <title>PE05 - Trevor Sparks</title>
  <script type="text/javascript" src="PE05.js"></script>
</head>
<body>
  <h1>Click the button to perform calculations and get user input</h1>
  <button onclick="whenTheButtonIsClicked();">Click me!</button>
  <p id="userInput">The user input:</p>
  <p id="task2FunctionAnswer">Task 2 function answer:</p>
  <p id="calcedFib">The Fibonacci value and the users input index: </p>
</body>
</html>

```

## PE06

```

interface Pizza{
  type: string,
  slices: number,
  crust?: string
}

interface Toppings extends Pizza{
  sauce: "Tomato" | "Alfredo" | "BBQ Sauce",
  pineapple?: boolean,
  parmesan?: boolean,
  crust?: string
}

```

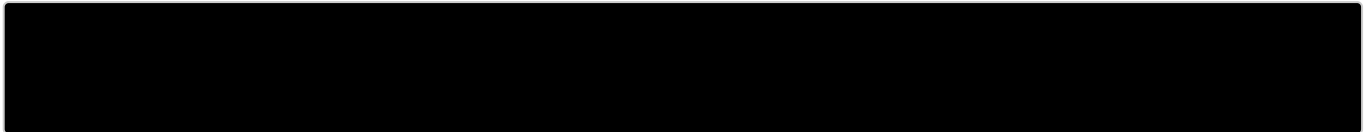
```
var myPizza: Toppings = ({
  type: "Meat lovers",
  slices: 6,
  sauce: "Tomato",
  pineapple: false,
  parmesan: true,
  crust: "Stuffed"
});

console.log("Number of slices in myPizza: ", myPizza.slices);

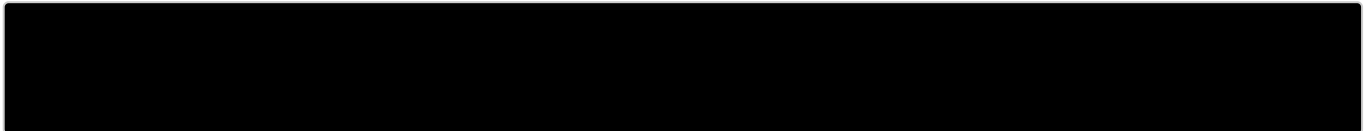
function checkSlices(pizza: Toppings): string{
  if(pizza.slices > 8){
    return "The number of slices is too high";
  }else if(pizza.slices == 8){
    return `The whole pizza is remaining`;
  }else{
    return `There is ${pizza.slices}/8 remaining of the pizza`;
  }
};

console.log(checkSlices(myPizza));
```

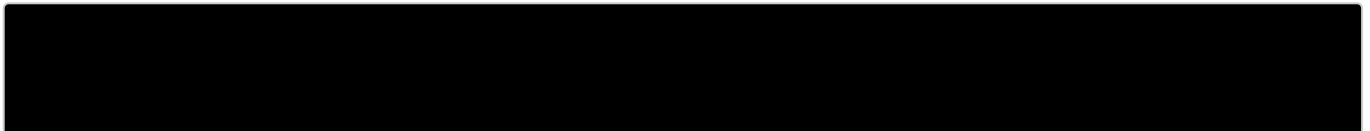
PE07



PE08



PE09



PE10

