Assignment 1

Marks:	35 (Each 5)
Due Date:	February 21, 2024 (Before 11:59 PM)
Submission:	on Google Classroom (one pdf file with screenshots + code)
Submission Guidelines:	- Assignments must be received before the deadline. Submissions after the deadline will face a 50% grade penalty (within 1 day) - Please do the work by yourself, this is an individual assignment and learning of JS - Plagiarism cases will be dealt with strictness.

Question 1: (Conditions)

Write a JavaScript program that converts temperatures between Fahrenheit and Celsius. Your program should prompt the user to enter a temperature and whether it's in Fahrenheit or Celsius. Then, output the converted temperature. Implement your solution using **if...else** statements.

Instructions:

- Prompt the user to enter a temperature

- Prompt the user to specify where the temperature is in Celsius or Fahrenheit

- Convert the temperature to the other unit using the Formula

    - To covert Celsius to Fahrenheit: Fahrenheit = (Celsius * 9/5) + 32

    - To convert Fahrenheit in Celsius: (Fahrenheit - 32) * 5/9

- Output the converted temperature along with original unit and the converted unit

Question 2: (While loop)

Write a program that takes two non negative numbers and then prints all the prime numbers in the specific range. You can create an isPrime function to check if the number is prime or not

Input
Enter the starting number: 10
Enter the ending number: 30
Output
The prime numbers between 10 and 30 are 11, 13, 17, 19, 23, 29

Question 3: (JS Class + objects)

Create a class with the following methods:

- addToBasket(value) adds value to the basket value,
- clearBasket() sets the basket value to 0
- getBasketValue() returns the basket value
- pay() logs the message that **value** has been paid. We can pay for the same basket as many times as we'd like.

```
let b1=new basketProto(0);
b1.addToBasket(2);
b1.addToBasket(4);
b1.pay();
b1.clearBasket();
b1.pay();
```

Output:

```
6 has been paid
0 has been paid
```

Question 4:

Create another class myBasket, and inherit all properties of basketProto created in Question3.
Create an array field in myBasket, containing all the items that you purchase in the following format:

```
{ itemName: 'string', itemPrice: 9.99 }
```

Redefine the addToBasket method such that it accepts an itemName and an itemPrice. Call the
addToBasket method of **basketProto** for the price administration, and store the itemName-
itemPrice data locally in your array. Make sure you modify the clearBasket method accordingly.

```
let x=new myBasket(['none',0]);
  x.addToBasket('mango',100);
  x.addToBasket('orange',100);

  x.pay();
  x.clearBasket();
  x.pay();
```

Output:

```
200 has been paid
0 has been paid
```

Question 5:

Extend your solution in Question 4 by adding a removeFromBasket(index) method. The parameter
index should be the index of the element in the array that you would like to remove.

Question 6: (Array methods**)**

Implement a function rightRotate(arr,n) that will rotate the given array by n.

Note: Don't do this manually. Instead try doing this by using splice, concat methods etc

```
[ 1, 2, 3, 4, 5 ]
After Rotation
[ 3, 4, 5, 1, 2 ]
```

Question 7: (Array Methods)

Consider this array of movies

const movies = [

 { name: "The Shawshank Redemption", director: "Frank Darabont", imdbRating: 9.3 },

 { name: "The Green Mile", director: "Frank Darabont", imdbRating: 8.6 },

 { name: "The Mist", director: "Frank Darabont", imdbRating: 7.1 },

 { name: "The Godfather", director: "Francis Ford Coppola", imdbRating: 9.2 },

 { name: "The Godfather Part II", director: "Francis Ford Coppola", imdbRating: 9.0 },

 { name: "Apocalypse Now", director: "Francis Ford Coppola", imdbRating: 8.4 },

 { name: "The Dark Knight", director: "Christopher Nolan", imdbRating: 9.0 },

 { name: "Inception", director: "Christopher Nolan", imdbRating: 8.8 },

 { name: "Interstellar", director: "Christopher Nolan", imdbRating: 8.6 },

 { name: "The Lord of the Rings: The Fellowship of the Ring", director: "Peter Jackson", imdbRating: 8.8 },

 { name: "The Lord of the Rings: The Two Towers", director: "Peter Jackson", imdbRating: 8.7 },

 { name: "The Lord of the Rings: The Return of the King", director: "Peter Jackson", imdbRating: 8.9 },

];

Now user will enter the name of Director. The program should output the average imdb rating of the director's movies. Do this only by using array methods(map, filter etc). Your program should also handle invalid inputs.

Input

Enter Director Name: Peter Jackson

The average rating of Peter Jackson movies is 8.8