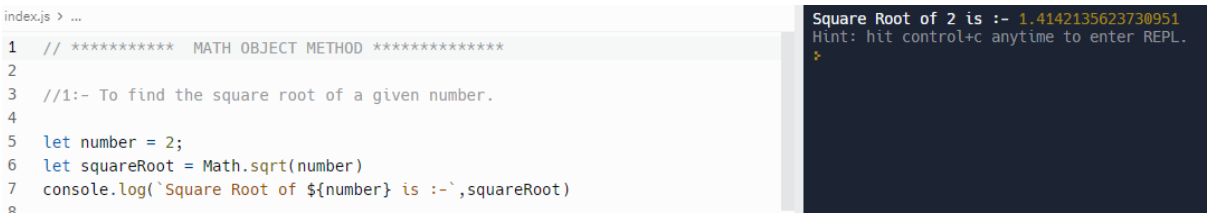
Date :- 14-June-2023

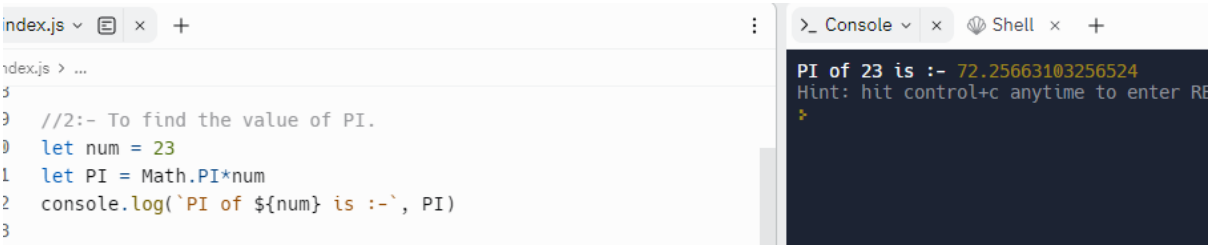
JAVASCRIPT ASSIGNMENT – 3

(Math Methods Question)

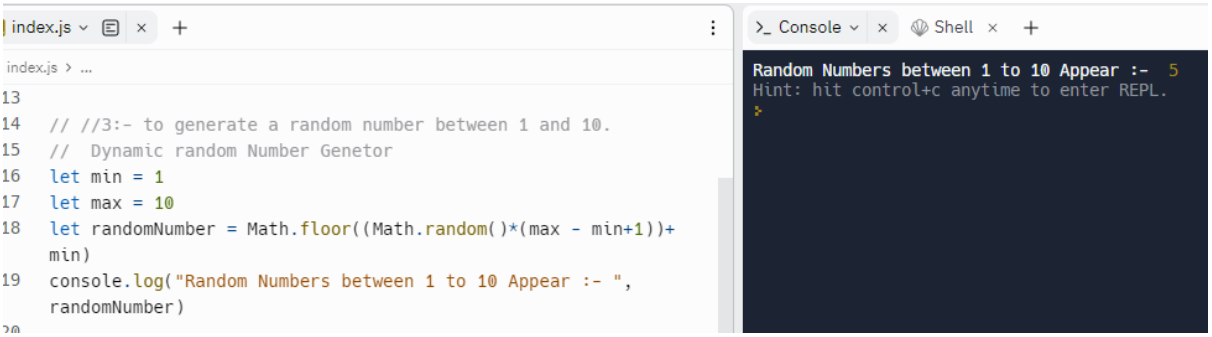
Q 1:- To find the Square root of a Given Number.



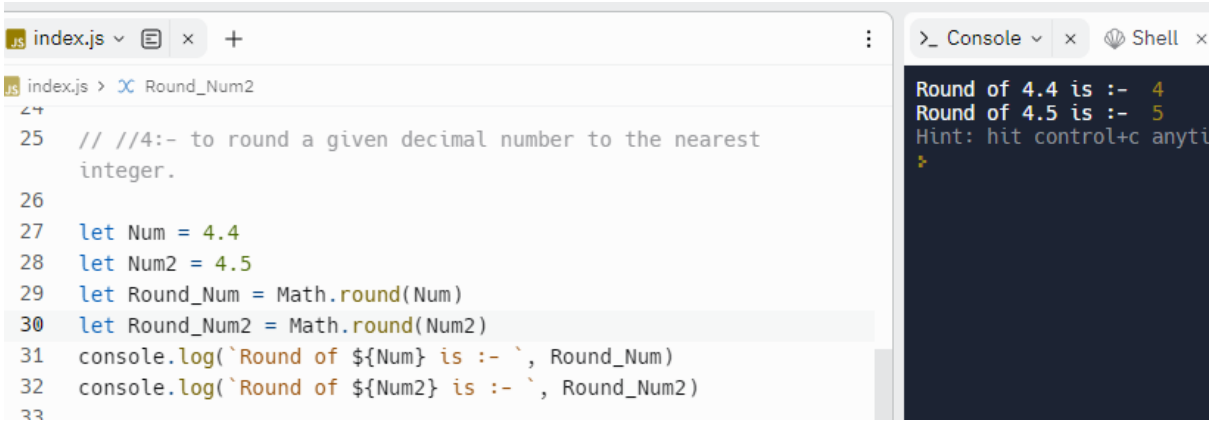
Q 2:- To find the value of PI.



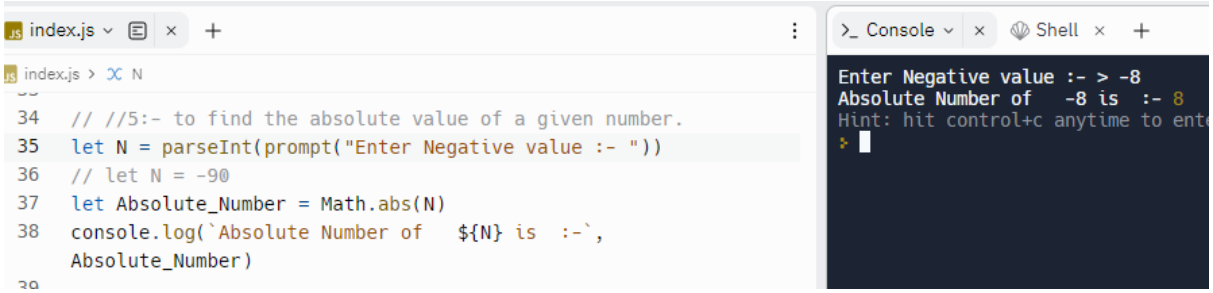
Q 3:- to generate a random number between 1 and 10.



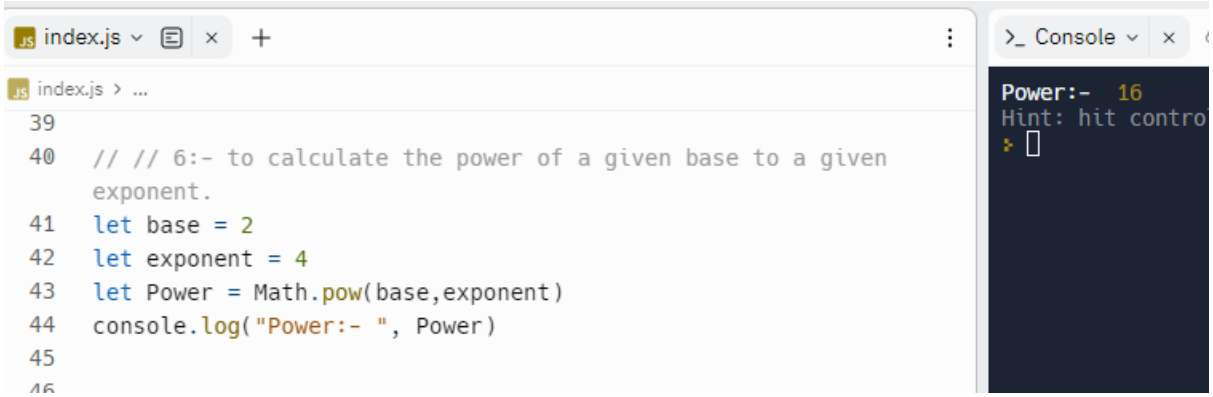
Q 4:- to round a given decimal number to the nearest integer.



Q 5:- to find the absolute value of a given number.



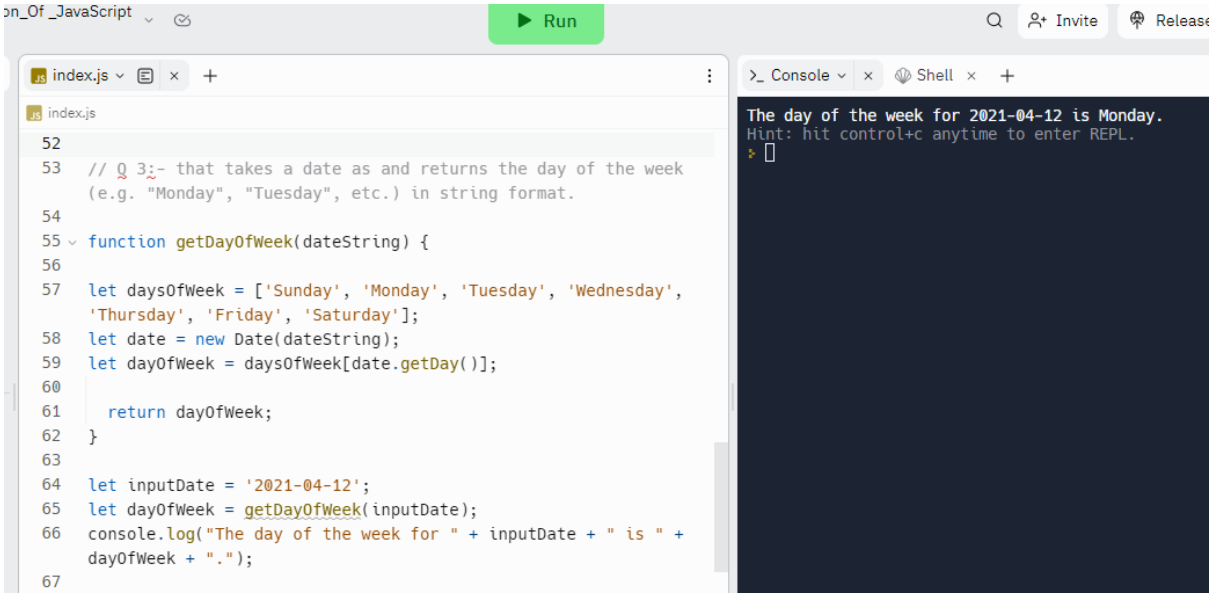
Q 6 :- To Calculate the Power of a Given base to a given exponent.



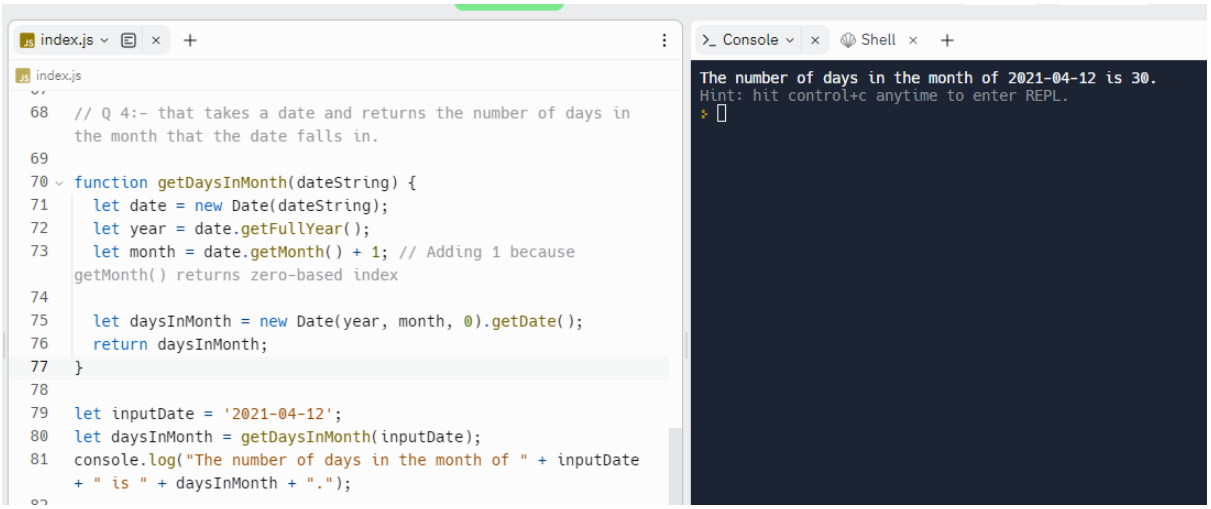
(Date Object Methods Question)

Q 1:- to display the current date and time in ISO format (YYYY-MM-DDTHH:MM:SSZ).

Q 3:- that takes a date as and returns the day of the week (e.g. "Monday", "Tuesday", etc.) in string format.



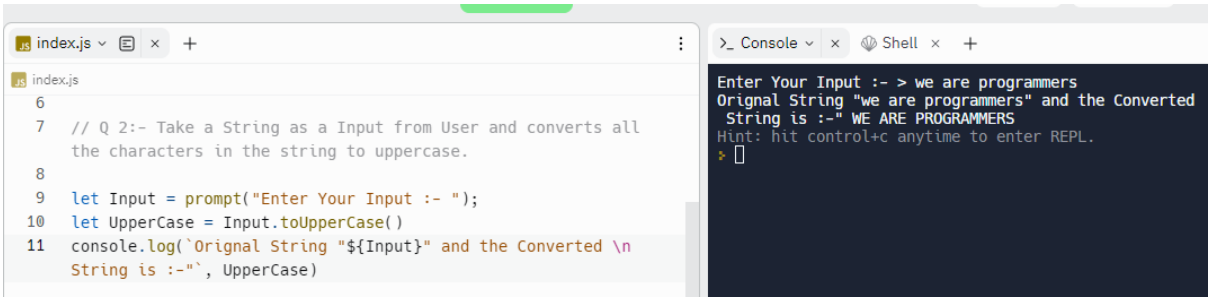
Q 4:- That takes a date and returns the number of days in the month that the date falls in.



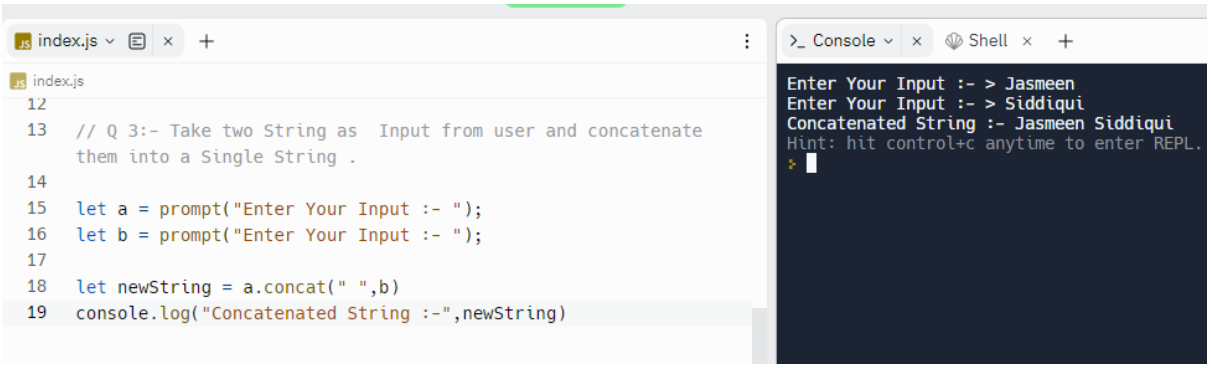
(String Question in JavaScript)

Q 1:- Takes a string as a input from the user and print out the length of the string.

1 (b):- Take a String as a Input from user and Converts all the characters in the String to Upper Case.



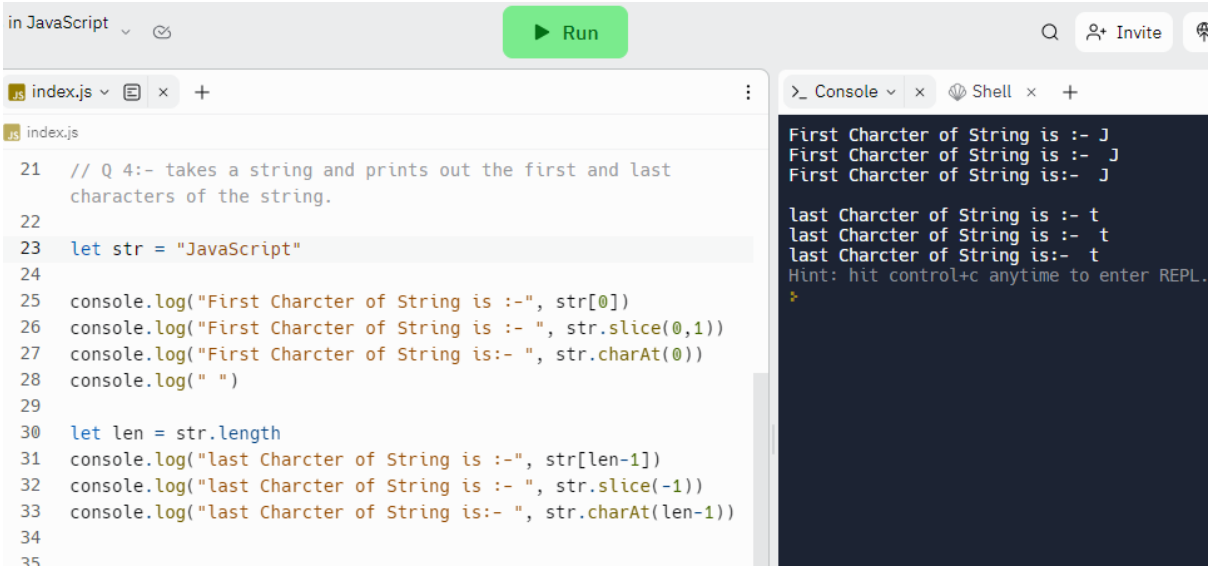
1 (c) :- Take two String as Input from user and concatenate them into a Single String .



```
// Q 3:- Take two String as  Input from user and concatenate them into a Single String .

let a = prompt("Enter Your Input :- ");
let b = prompt("Enter Your Input :- ");

let newString = a.concat(" ",b)
console.log("Concatenated String :-",newString)
```

```
Enter Your Input :- > Jasmeen
Enter Your Input :- > Siddiqui
Concatenated String :- Jasmeen Siddiqui
Hint: hit control+c anytime to enter REPL.
```

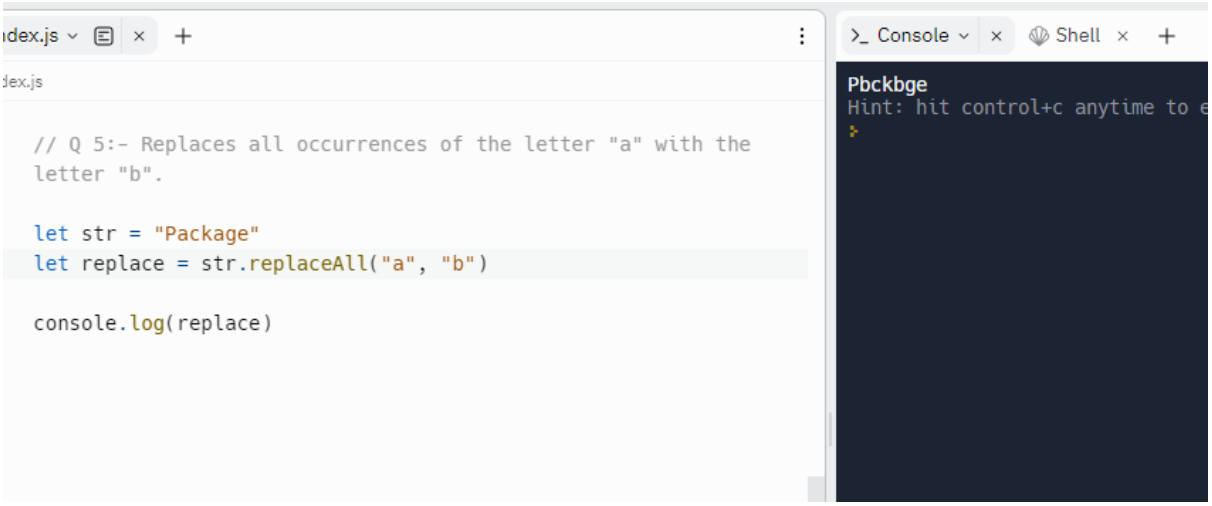
1 (d) :- takes a string and prints out the first and last characters of the string.



```
// Q 4:- takes a string and prints out the first and last characters of the string.

let str = "JavaScript"

console.log("First Charcter of String is :-", str[0])
console.log("First Charcter of String is :- ", str.slice(0,1))
console.log("First Charcter of String is:- ", str.charAt(0))
console.log(" ")

let len = str.length
console.log("last Charcter of String is :-", str[len-1])
console.log("last Charcter of String is :- ", str.slice(-1))
console.log("last Charcter of String is:- ", str.charAt(len-1))
```

```
First Charcter of String is :- J
First Charcter of String is :-  J
First Charcter of String is:-  J

last Charcter of String is :- t
last Charcter of String is :-  t
last Charcter of String is:-  t
Hint: hit control+c anytime to enter REPL.
```

1(e) :- Replaces all occurrences of the letter "a" with the letter "b".

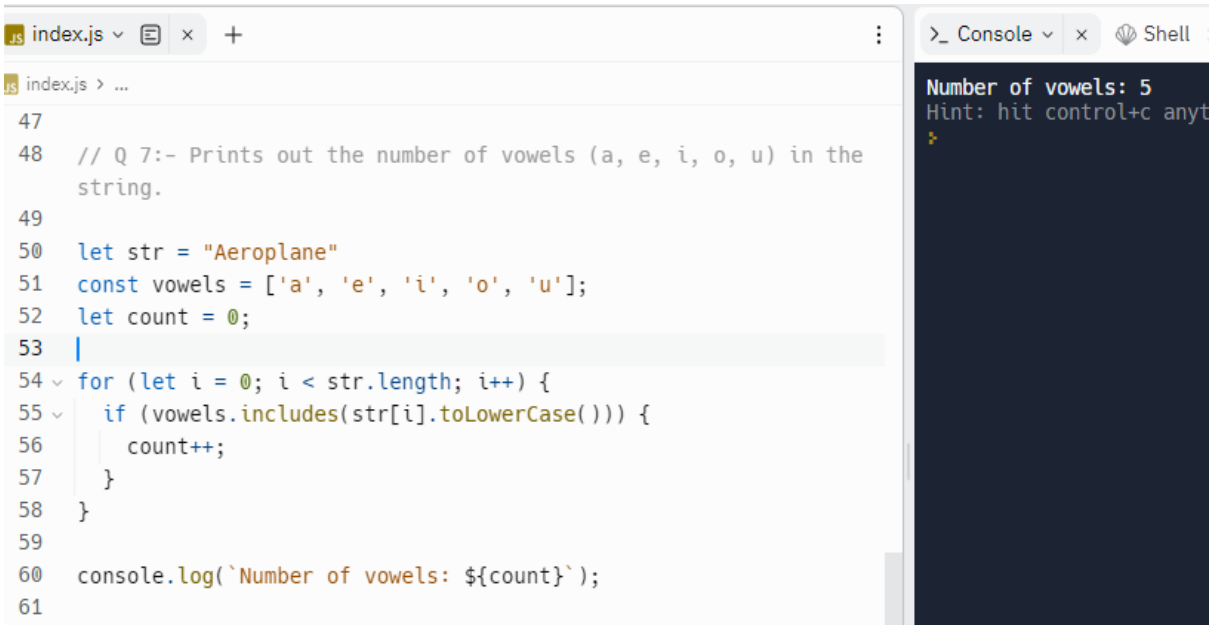


```
// Q 5:- Replaces all occurrences of the letter "a" with the letter "b".

let str = "Package"
let replace = str.replaceAll("a", "b")

console.log(replace)
```

```
Pbckbge
Hint: hit control+c anytime to e
```

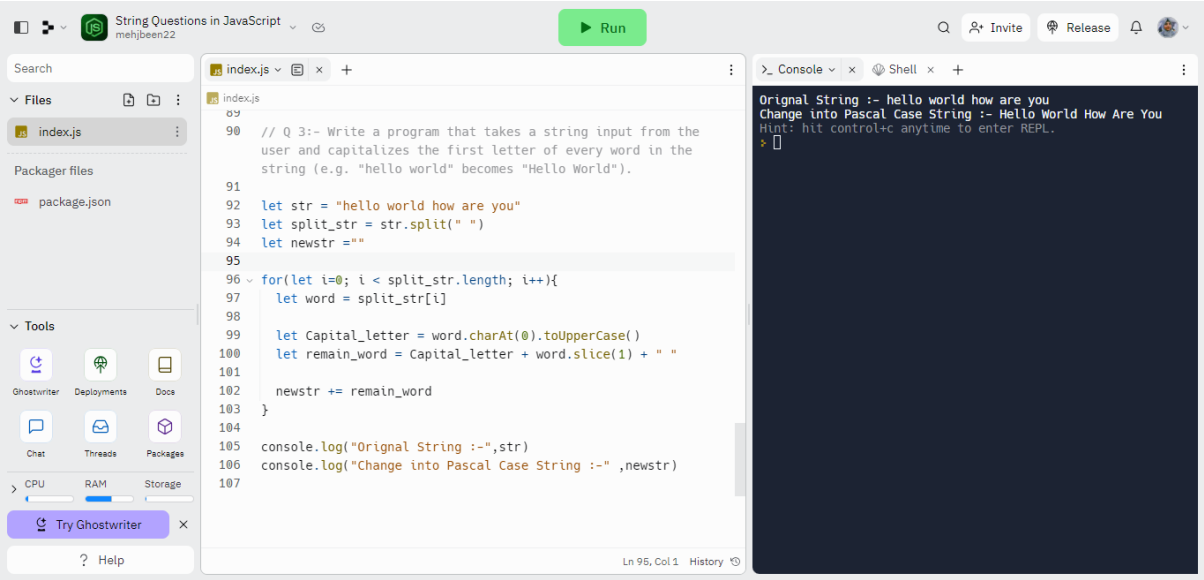
1 (f) :- Removes all the whitespace characters from the string.

1(g):- Prints out the number of vowels (a, e, i, o, u) in the string.

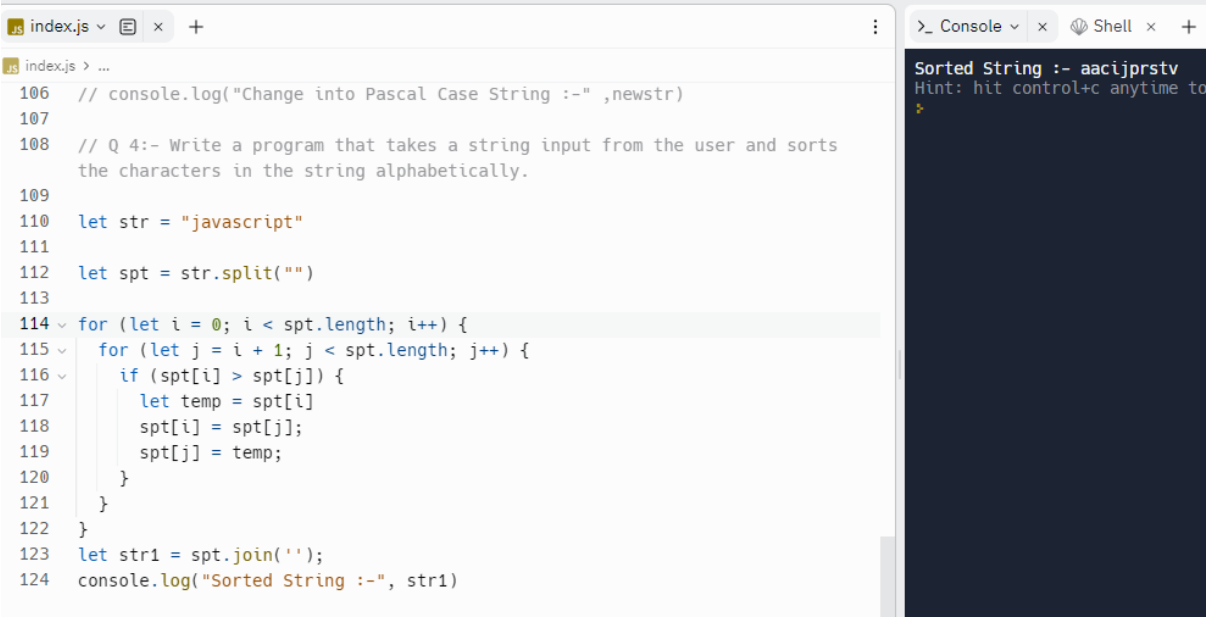


Q 2:- Write a program that takes a string input from the user and checks if the string is a palindrome (reads the same backwards as forwards).

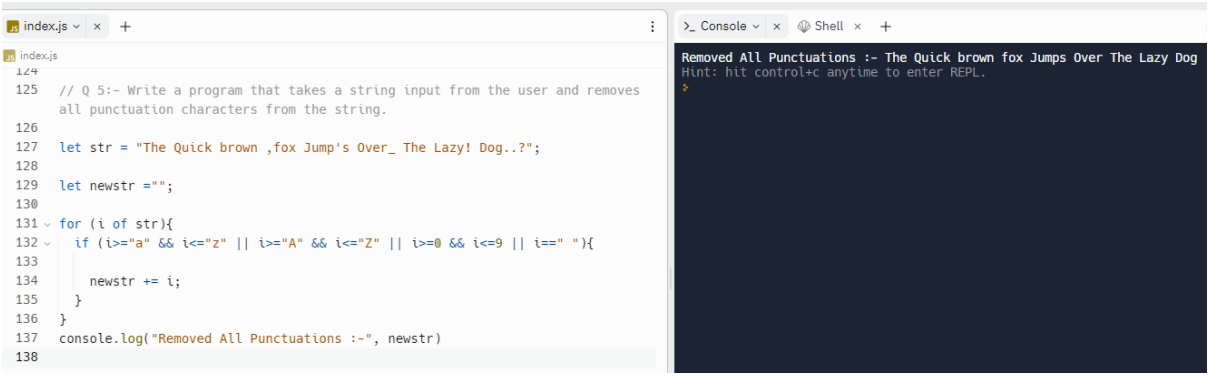
Q 3:- Write a program that takes a string input from the user and capitalizes the first letter of every word in the string (e.g. "hello world" becomes "Hello World").



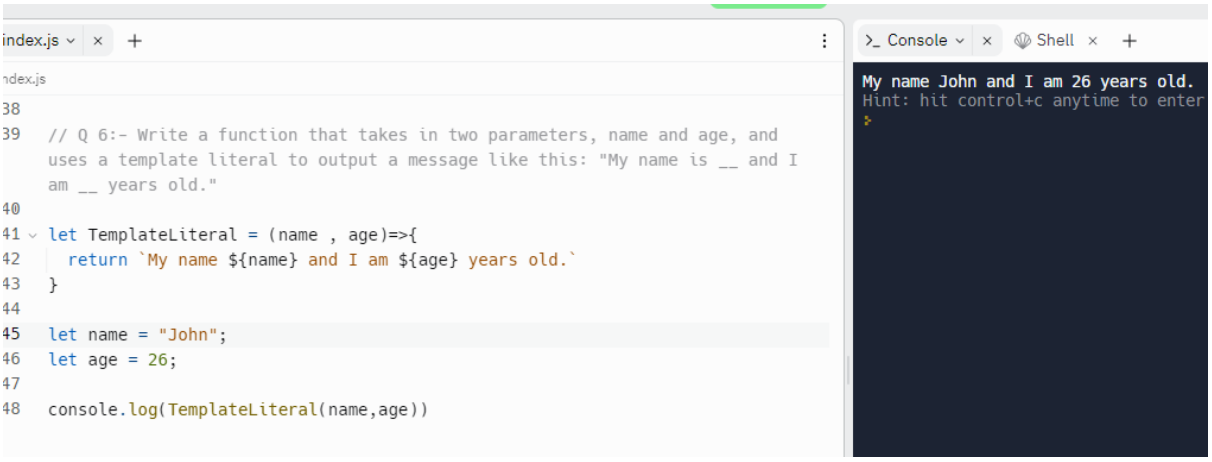
Q 4:- Write a program that takes a string input from the user and sorts the characters in the string alphabetically.



Q 5:- Write a program that takes a string input from the user and removes all punctuation characters from the string.

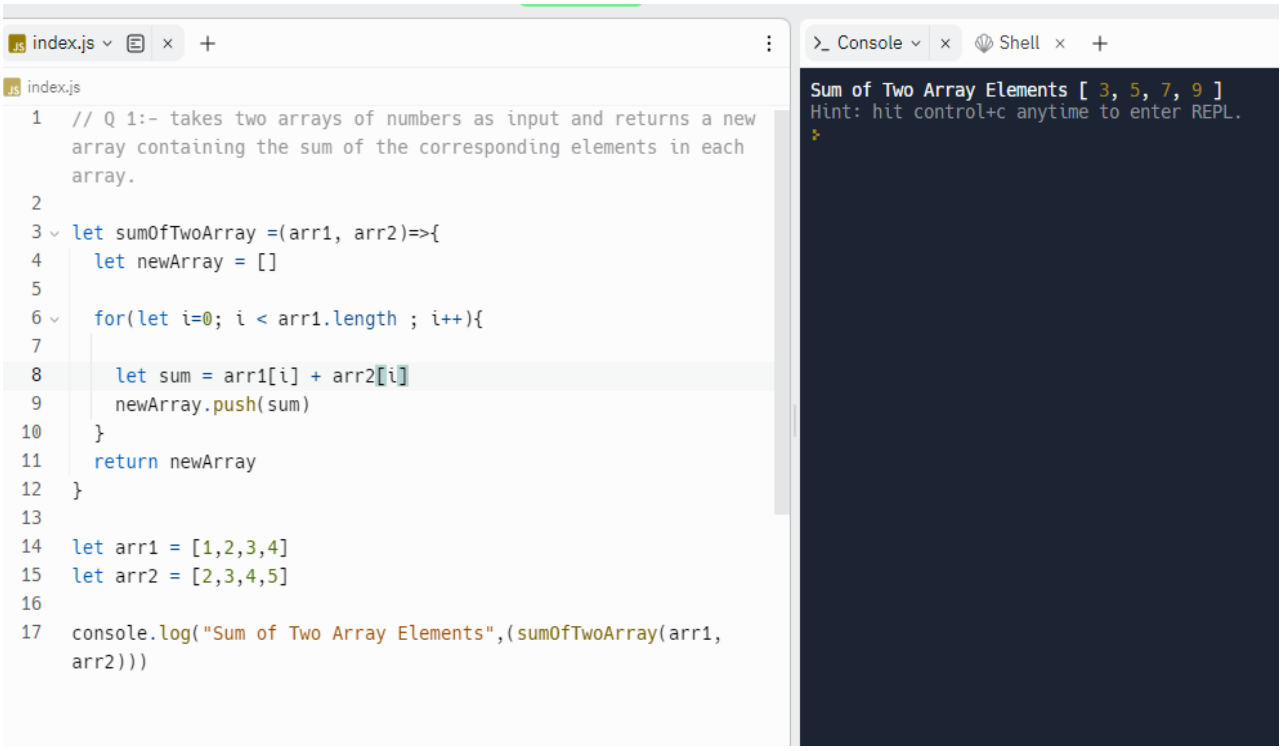


Q 6:- Write a function that takes in two parameters, name and age, and uses a template literal to output a message like this: "My name is __ and I am __ years old."

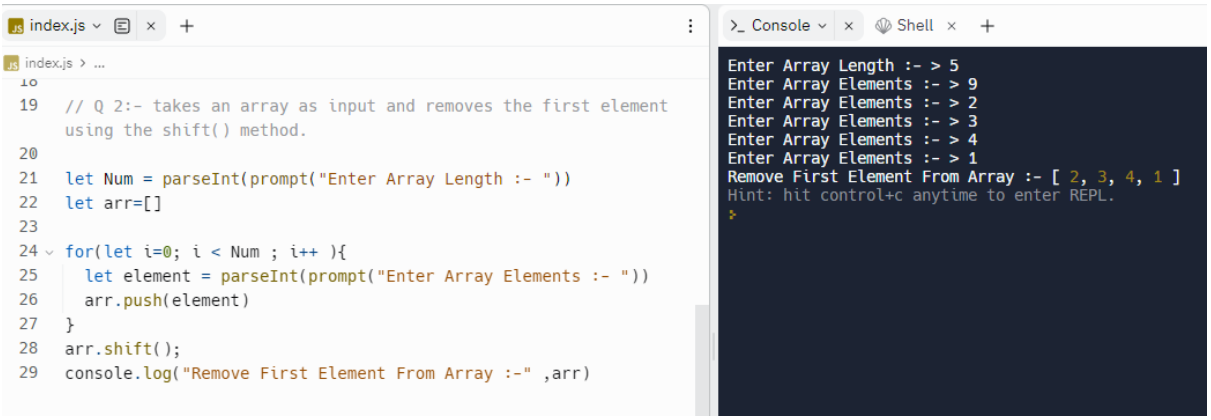


(Array Method Questions in Js)

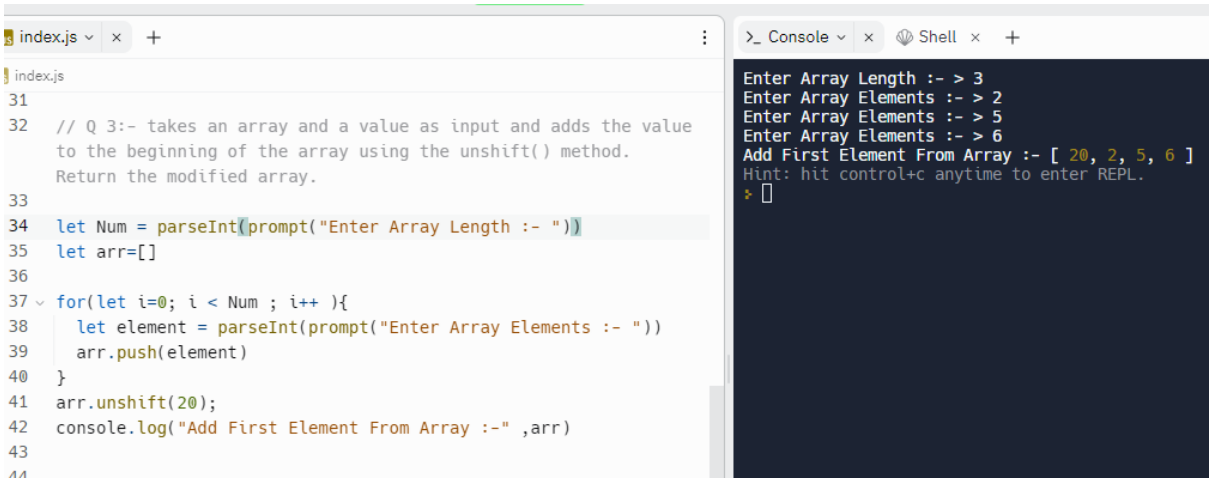
Q 1:- takes two arrays of numbers as input and returns a new array containing the sum of the corresponding elements in each array.



Q 2:- takes an array as input and removes the first element using the shift() method.



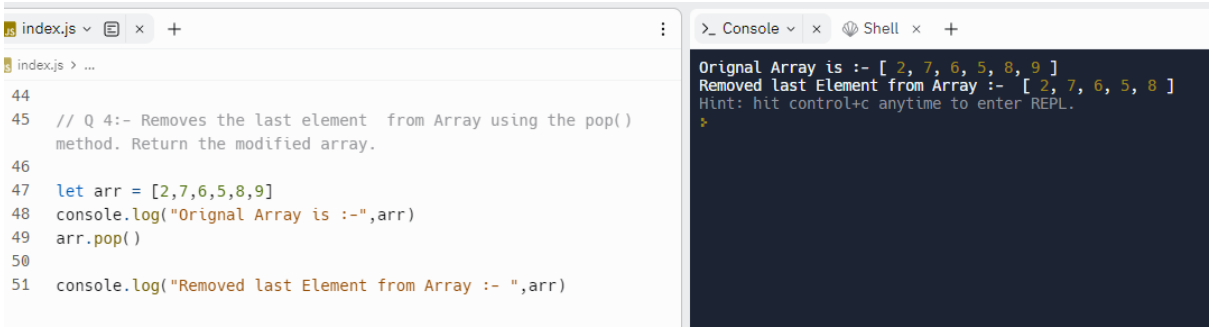
Q 3:- takes an array and a value as input and adds the value to the beginning of the array using the unshift() method. Return the modified array.



```
// Q 3:- takes an array and a value as input and adds the value
to the beginning of the array using the unshift() method.
Return the modified array.

let Num = parseInt(prompt("Enter Array Length :- "))
let arr=[]

for(let i=0; i < Num ; i++ ){
  let element = parseInt(prompt("Enter Array Elements :- "))
  arr.push(element)
}
arr.unshift(20);
console.log("Add First Element From Array :-" ,arr)
```

```
Enter Array Length :- > 3
Enter Array Elements :- > 2
Enter Array Elements :- > 5
Enter Array Elements :- > 6
Add First Element From Array :- [ 20, 2, 5, 6 ]
Hint: hit control+c anytime to enter REPL.
```

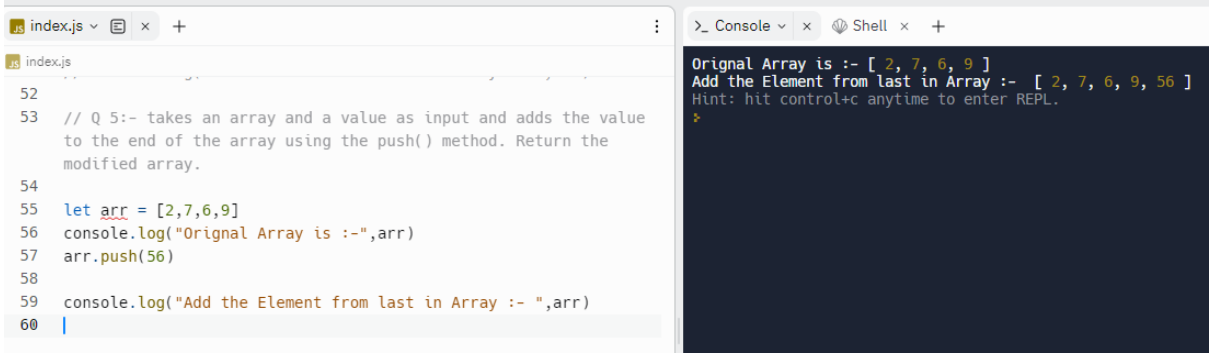
Q 3:- takes an array as input and removes the last element using the pop() method. Return the modified array.



```
// Q 4:- Removes the last element  from Array using the pop()
method. Return the modified array.

let arr = [2,7,6,5,8,9]
console.log("Orignal Array is :-",arr)
arr.pop()

console.log("Removed last Element from Array :- ",arr)
```

```
Orignal Array is :- [ 2, 7, 6, 5, 8, 9 ]
Removed last Element from Array :-  [ 2, 7, 6, 5, 8 ]
Hint: hit control+c anytime to enter REPL.
```

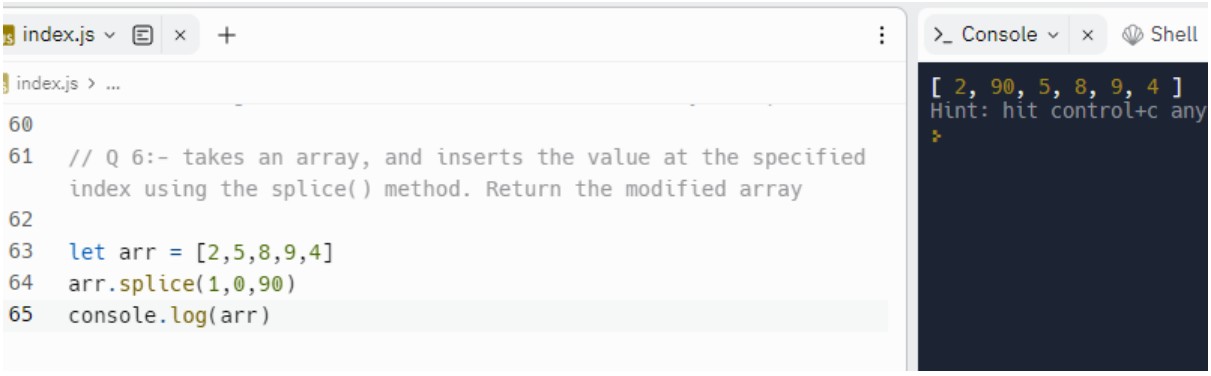
Q 4:- takes an array and a value as input and adds the value to the end of the array using the push() method. Return the modified array.



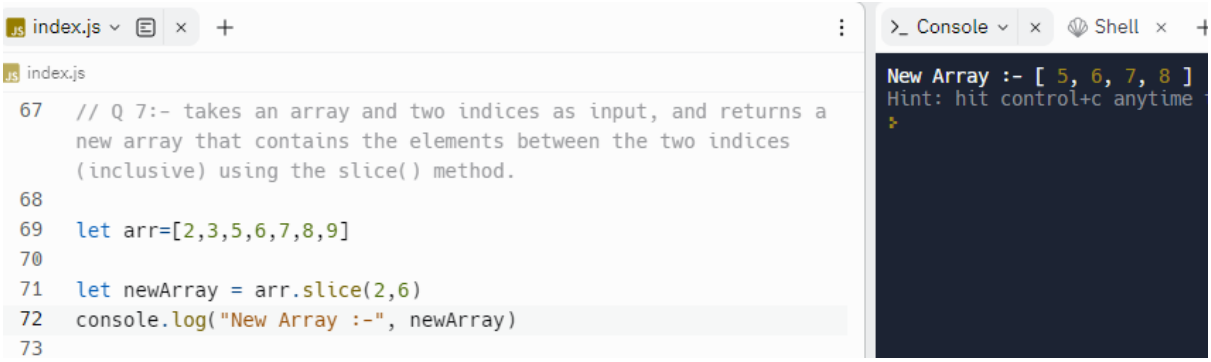
```
// Q 5:- takes an array and a value as input and adds the value
to the end of the array using the push() method. Return the
modified array.

let arr = [2,7,6,9]
console.log("Orignal Array is :-",arr)
arr.push(56)

console.log("Add the Element from last in Array :- ",arr)
```

```
Orignal Array is :- [ 2, 7, 6, 9 ]
Add the Element from last in Array :-  [ 2, 7, 6, 9, 56 ]
Hint: hit control+c anytime to enter REPL.
```

Q 6:- takes an array, and inserts the value at the specified index using the splice() method. Return the modified array.

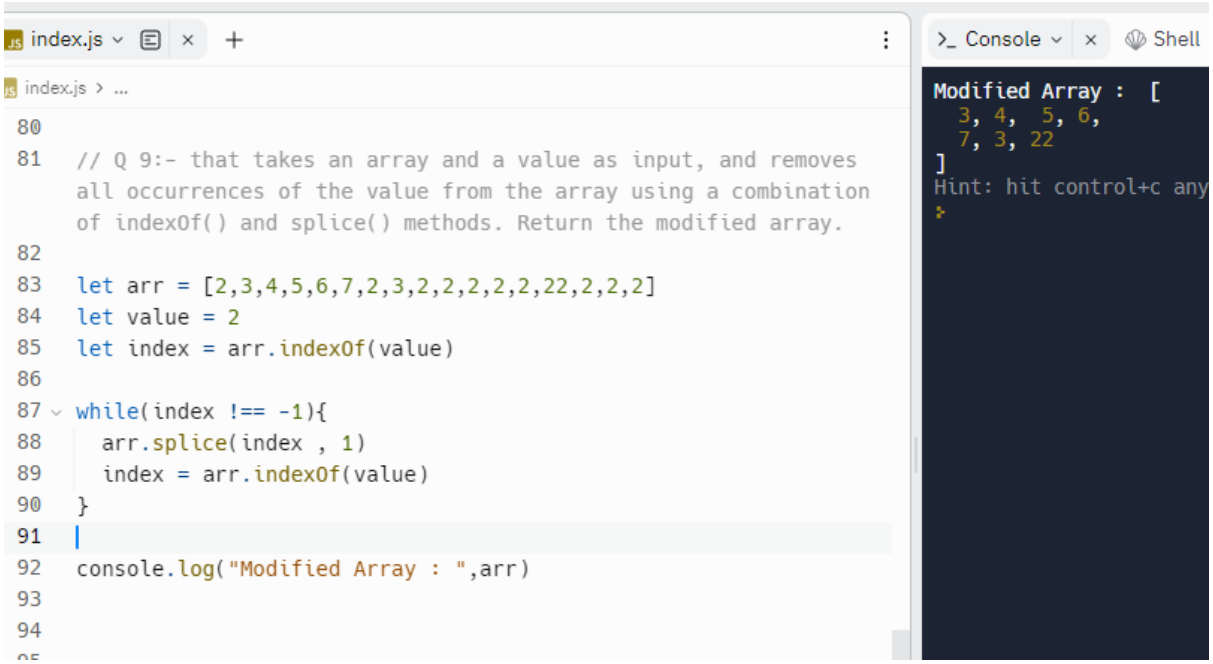


Q 7:- takes an array and two indices as input, and returns a new array that contains the elements between the two indices (inclusive) using the slice() method.

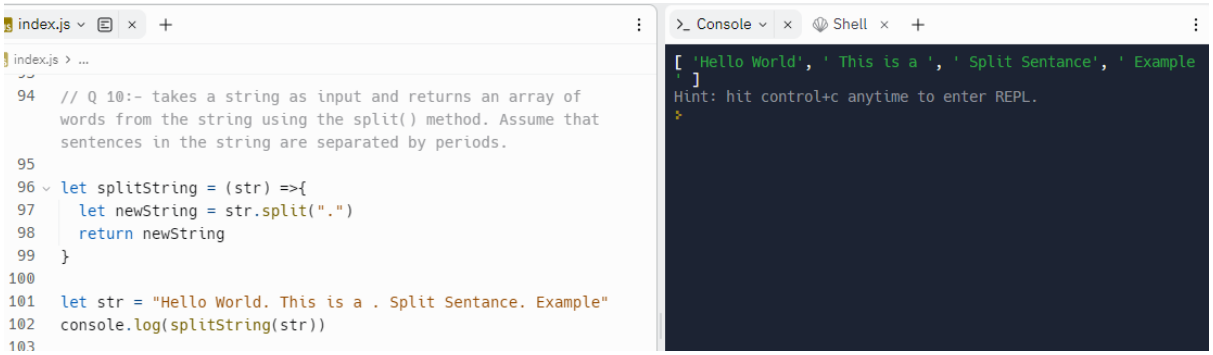


Q 8:- takes an array and a value as input, and returns a Boolean indicating whether the value is present in the array using the includes() method.

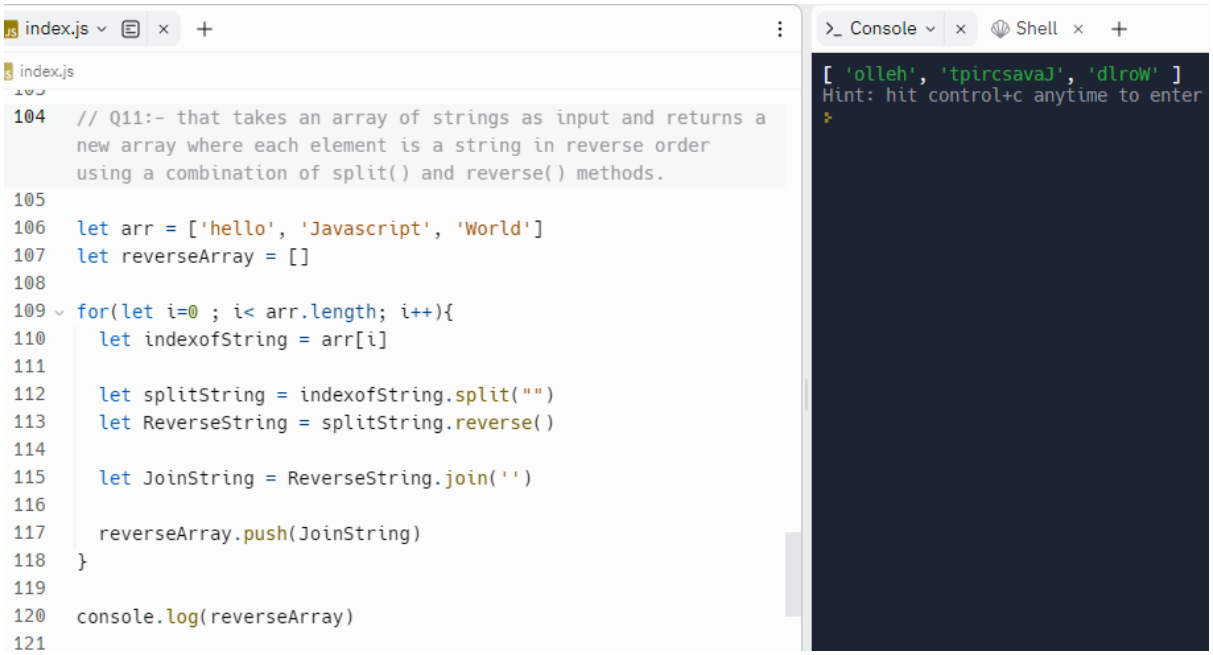
Q 9:- that takes an array and a value as input, and removes all occurrences of the value from the array using a combination of indexOf() and splice() methods. Return the modified array.



Q 10:- takes a string as input and returns an array of words from the string using the split() method. Assume that sentences in the string are separated by periods.



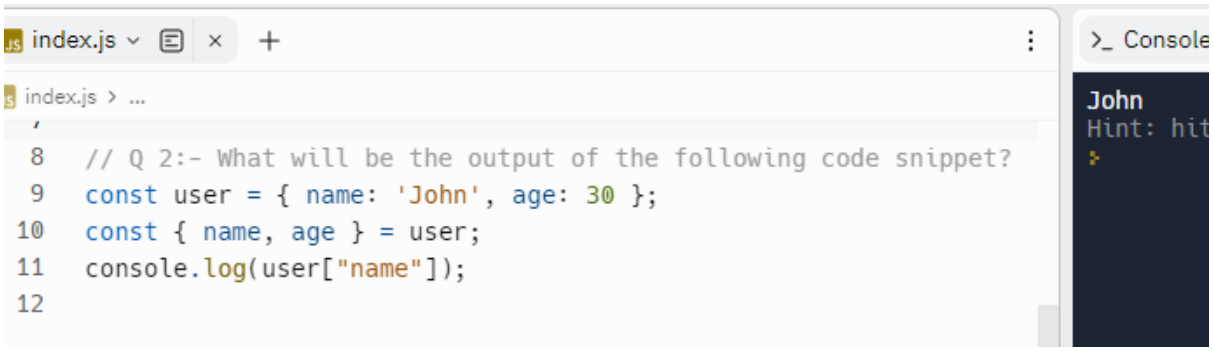
Q11:- that takes an array of strings as input and returns a new array where each element is a string in reverse order using a combination of split() and reverse() methods.



(Destructuring Assignment, Spread and Rest Operator)

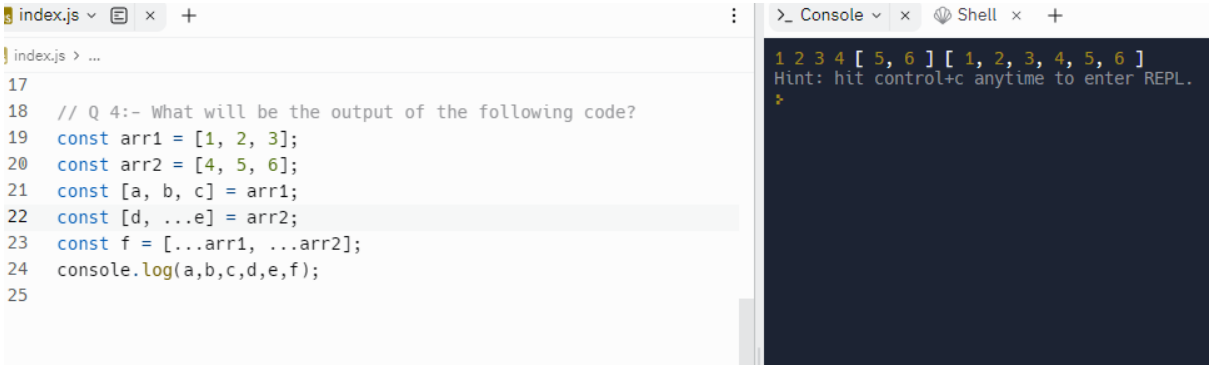
Answer :-1

Answer :-2



Answer :-3

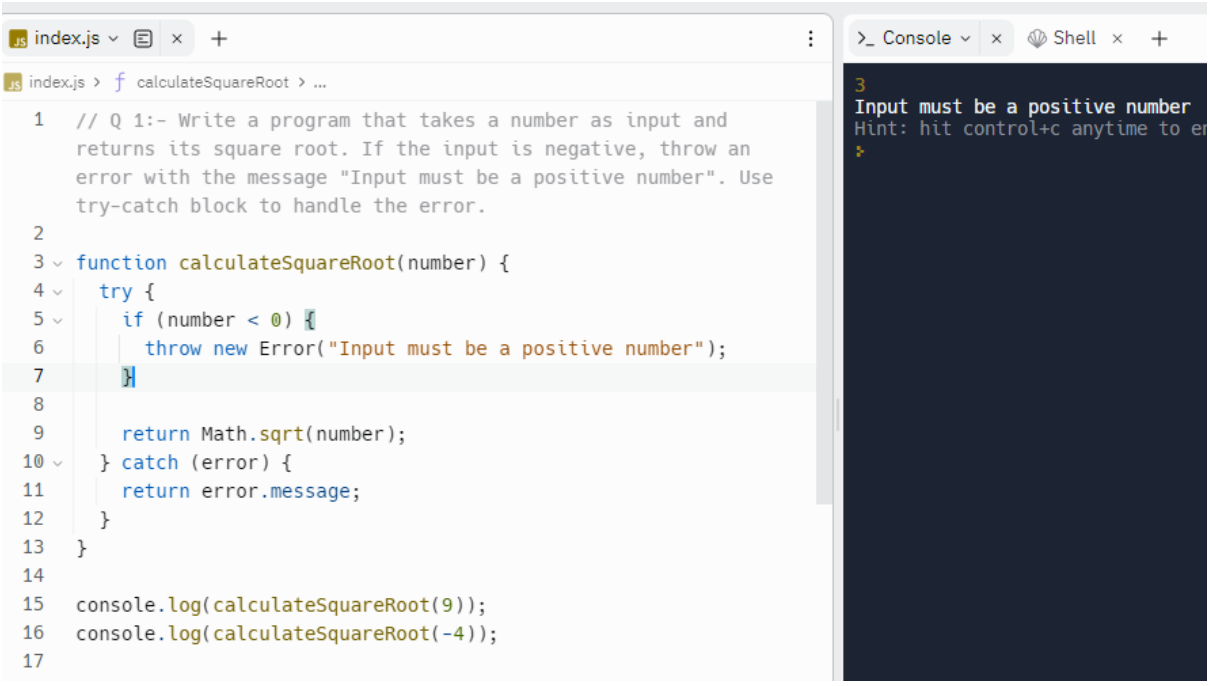
Answer :-4



Answer :-5

(Exception handling)

Answer 1:-



```
// Q 1:- Write a program that takes a number as input and
returns its square root. If the input is negative, throw an
error with the message "Input must be a positive number". Use
try-catch block to handle the error.

function calculateSquareRoot(number) {
  try {
    if (number < 0) {
      throw new Error("Input must be a positive number");
    }

    return Math.sqrt(number);
  } catch (error) {
    return error.message;
  }
}

console.log(calculateSquareRoot(9));
console.log(calculateSquareRoot(-4));
```

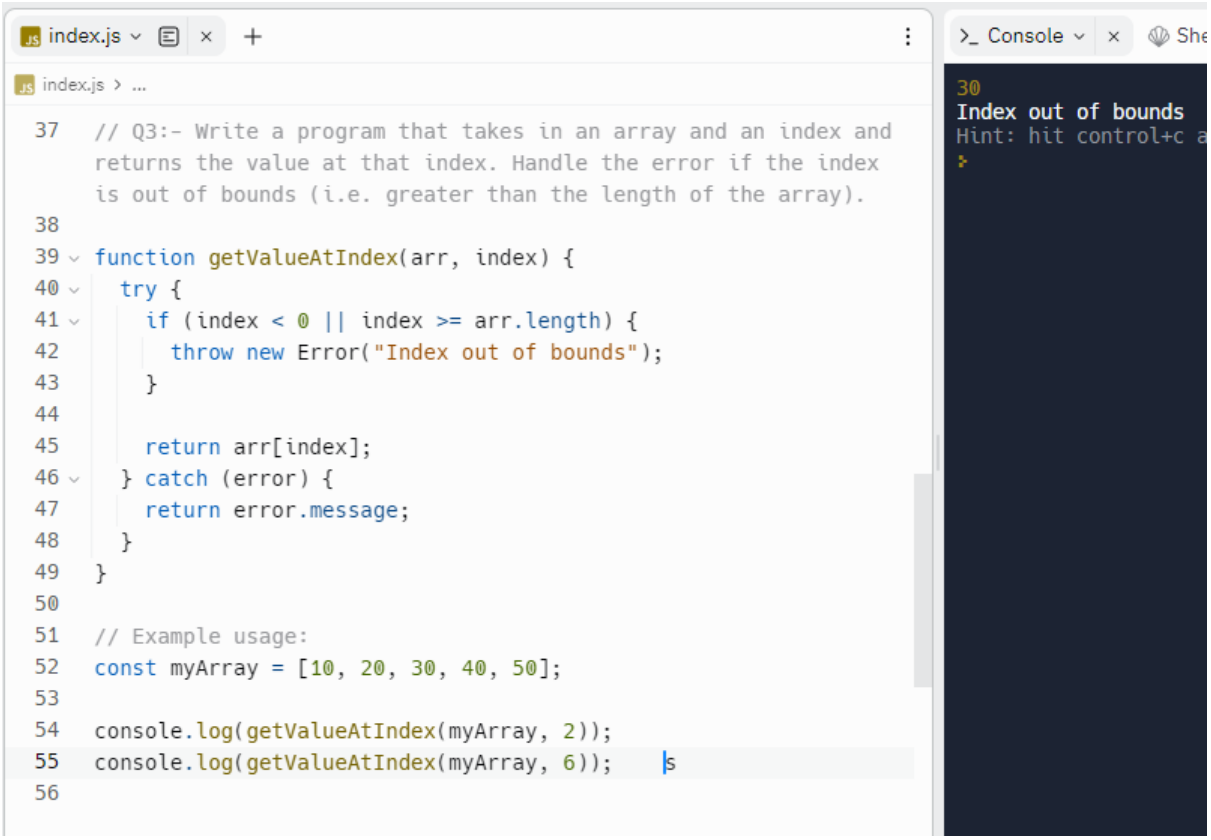
```
3
Input must be a positive number
Hint: hit control+c anytime to en
```

Answer 2:-

```
// Q 2:- Write a program that takes in two arguments and
returns their division. Handle the error when the second
argument is zero.
function divideNumbers(dividend, divisor) {
  try {
    if (divisor === 0) {
      throw new Error("Division by zero is not allowed");
    }

    return dividend / divisor;
  } catch (error) {
    return error.message;
  }
}

// Example usage:
console.log(divideNumbers(10, 2));
console.log(divideNumbers(8, 0));
```

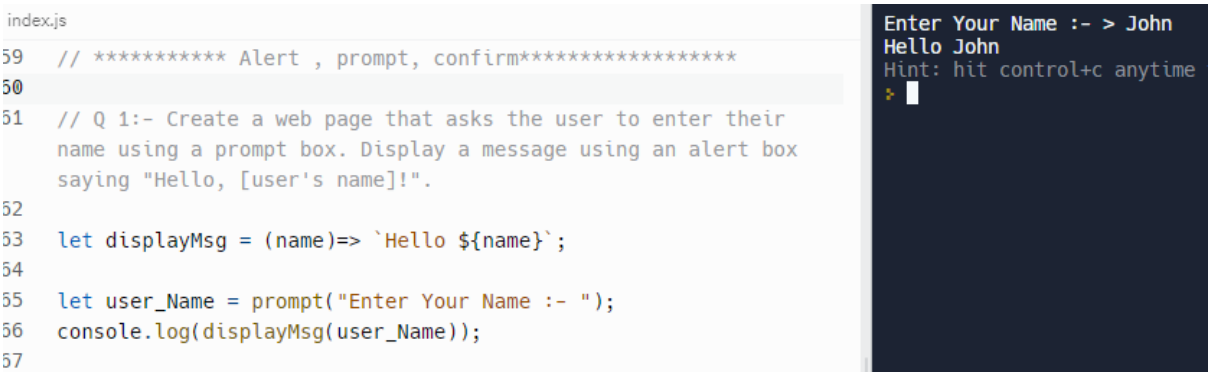
```
5
Division by zero is not allowed
Hint: hit control+c anytime to e
```

Answer 3:-

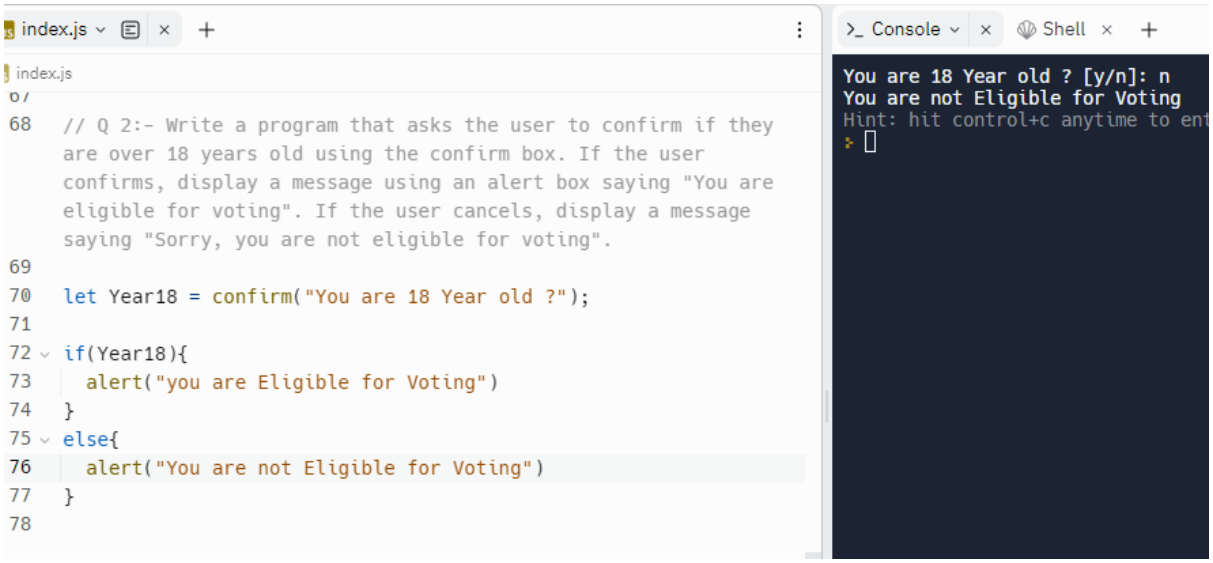


(Alert + Prompt + Confirm)

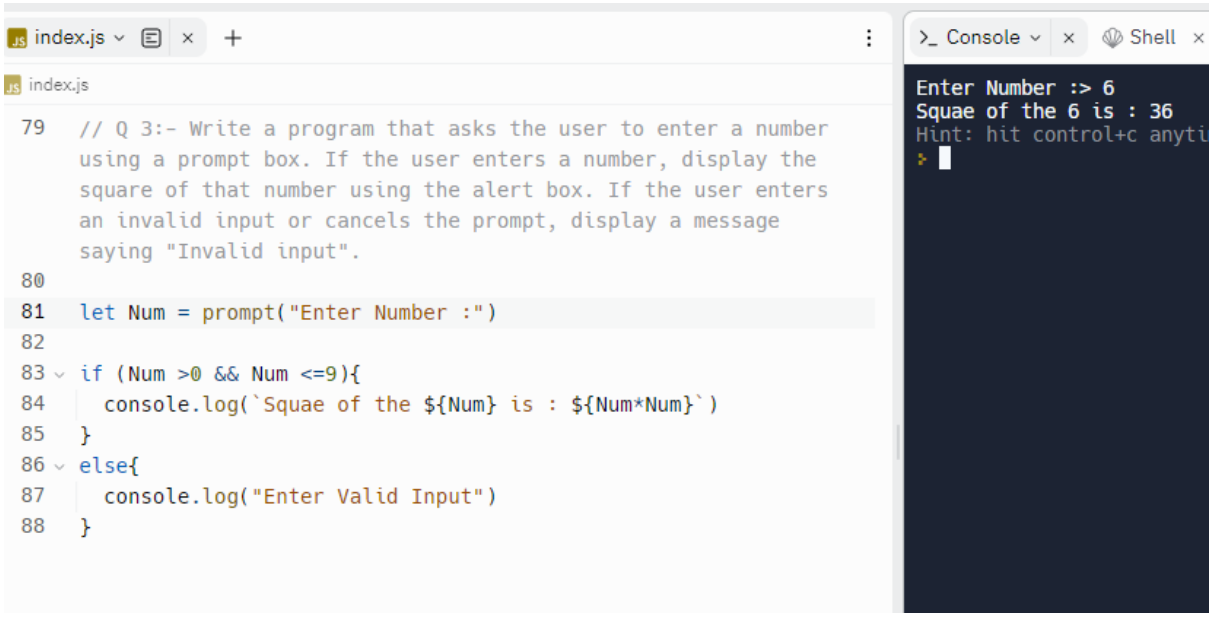
Answer 1:-



Answer 2:-


index.js
index.js
// Q 2:- Write a program that asks the user to confirm if they are over 18 years old using the confirm box. If the user confirms, display a message using an alert box saying "You are eligible for voting". If the user cancels, display a message saying "Sorry, you are not eligible for voting".
let Year18 = confirm("You are 18 Year old ?");
if(Year18){
alert("you are Eligible for Voting")
}
else{
alert("You are not Eligible for Voting")
}
Console
Shell
You are 18 Year old ? [y/n]: n
You are not Eligible for Voting
Hint: hit control+c anytime to ent

Answer 3:-


index.js
index.js
// Q 3:- Write a program that asks the user to enter a number using a prompt box. If the user enters a number, display the square of that number using the alert box. If the user enters an invalid input or cancels the prompt, display a message saying "Invalid input".
let Num = prompt("Enter Number :")
if (Num >0 && Num <=9){
console.log(`Squae of the ${Num} is : ${Num*Num}`)
}
else{
console.log("Enter Valid Input")
}
Console
Shell
Enter Number :> 6
Squae of the 6 is : 36
Hint: hit control+c anyti