

Question 10: Implement linear search in JavaScript.

```
const prompt=require('prompt-sync')();

// Define a function to perform a linear search on an array

function linearSearch(arr, val)

{

    for (let i = 0; i < arr.length; i++)

    {

        if (arr[i] === val)

        {

            return i;

        }

    }

    return -1;

}

// Prompt the user for an array of numbers

const arr = prompt("Enter an array of numbers, separated by commas").split(",").map(Number);

// Prompt the user for a value to search for

const val = Number(prompt("Enter a value to search for"));

// Call the linear search function and output the result

const result = linearSearch(arr, val);

if (result === -1)

{

    console.log(`The value ${val} was not found in the array.`);

}

else

{

    console.log(`The value ${val} was found at index ${result}.`);

}
```

Steps to execute JavaScript file

Step 1: Open Command Prompt

Step 2: node filename.js

Output

```
[Enter an array of numbers, separated by commas23,12,56,78,10
[Enter a value to search for12
The value 12 was found at index 1.

[Enter an array of numbers, separated by commas56,13,16,10,9,45
[Enter a value to search for56
The value 56 was found at index 0.

[Enter an array of numbers, separated by commas34,67,12,22,90,56,11
[Enter a value to search for78
The value 78 was not found in the array.]
```