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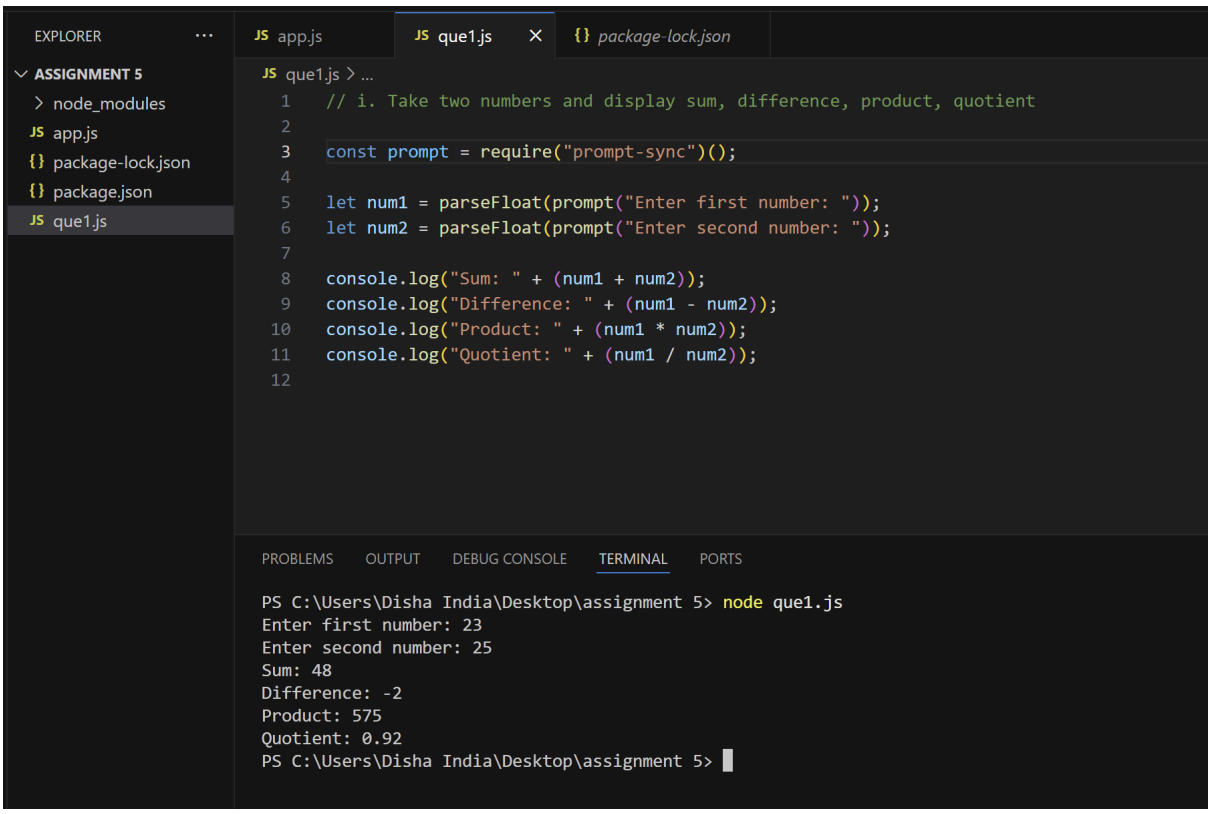
Operating Systems Lab Assignment 4

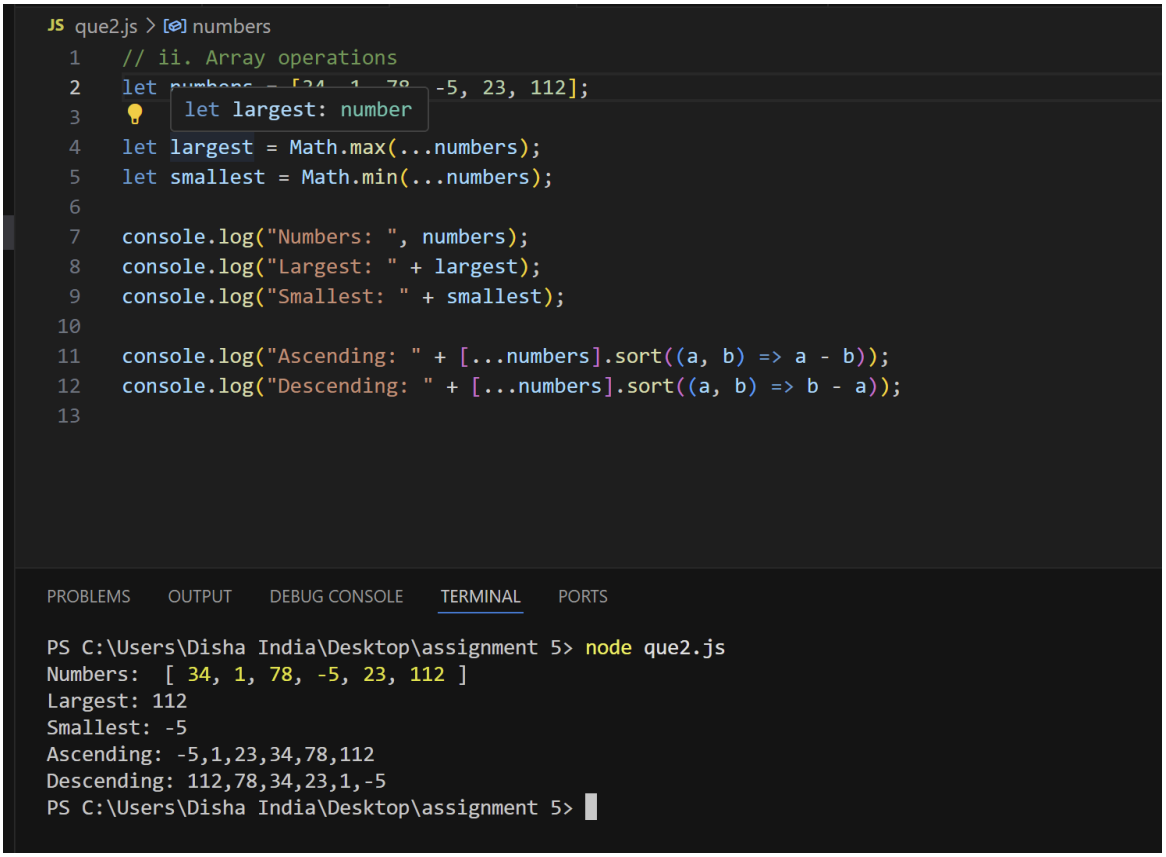
Title: Java script and Node.js

Que. 1. i. Write a JavaScript program to take two numbers as input from user and display their sum, difference, product, and quotient.

Ans.



Que. 2. ii. Write a JavaScript program to create an array of 5 numbers and:
Find the largest and smallest number. Sort the array in ascending and descending order.
Ans.



Que. 3. iii. Create a simple form with fields for name, email, and age. Write JavaScript to validate that:The name field is not empty.
The email is in the correct format.
The age is between 18 and 100.

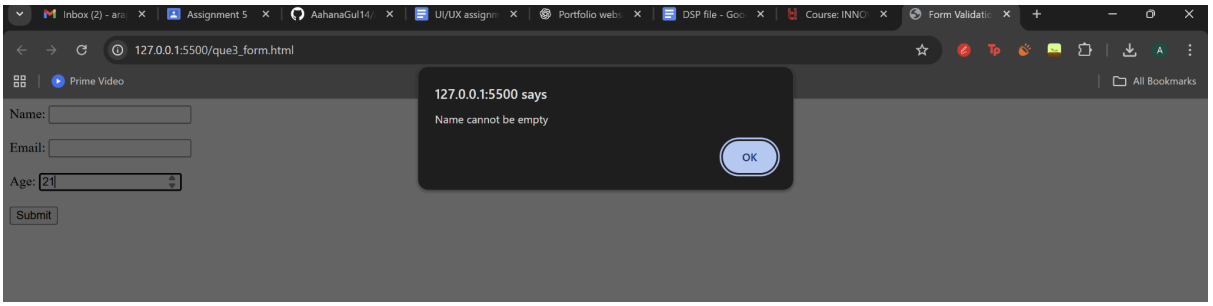
Ans.

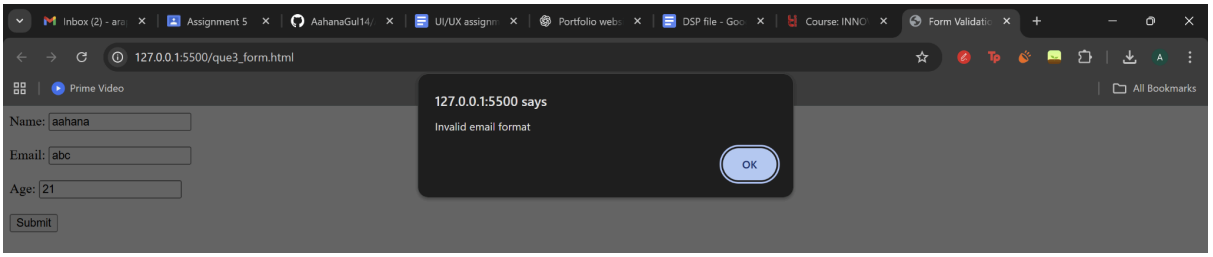
que3_form.html > ...

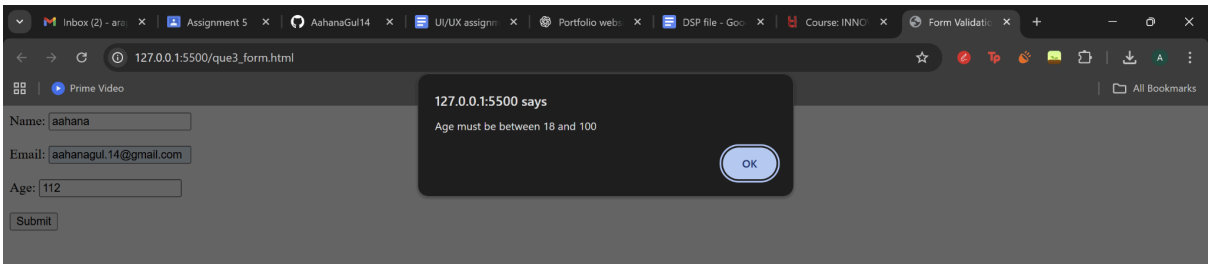
```
<!DOCTYPE html>
<html>
<head>
  <title>Form Validation</title>
</head>
<body>
  <form onsubmit="return validateForm()">
    Name: <input type="text" id="name"><br><br>
    Email: <input type="text" id="email"><br><br>
    Age: <input type="number" id="age"><br><br>
    <button type="submit">Submit</button>
  </form>

  <script>
    function validateForm() {
      let name = document.getElementById("name").value;
      let email = document.getElementById("email").value;
      let age = parseInt(document.getElementById("age").value);

      if (name.trim() === "") {
        alert("Name cannot be empty");
        return false;
      }
      let emailPattern = /^[^ ]+@[^ ]+\.[a-z]{2,3}$/;
      if (!email.match(emailPattern)) {
        alert("Invalid email format");
        return false;
      }
      if (isNaN(age) || age < 18 || age > 100) {
        alert("Age must be between 18 and 100");
        return false;
      }
      alert("Form submitted successfully!");
      return true;
```

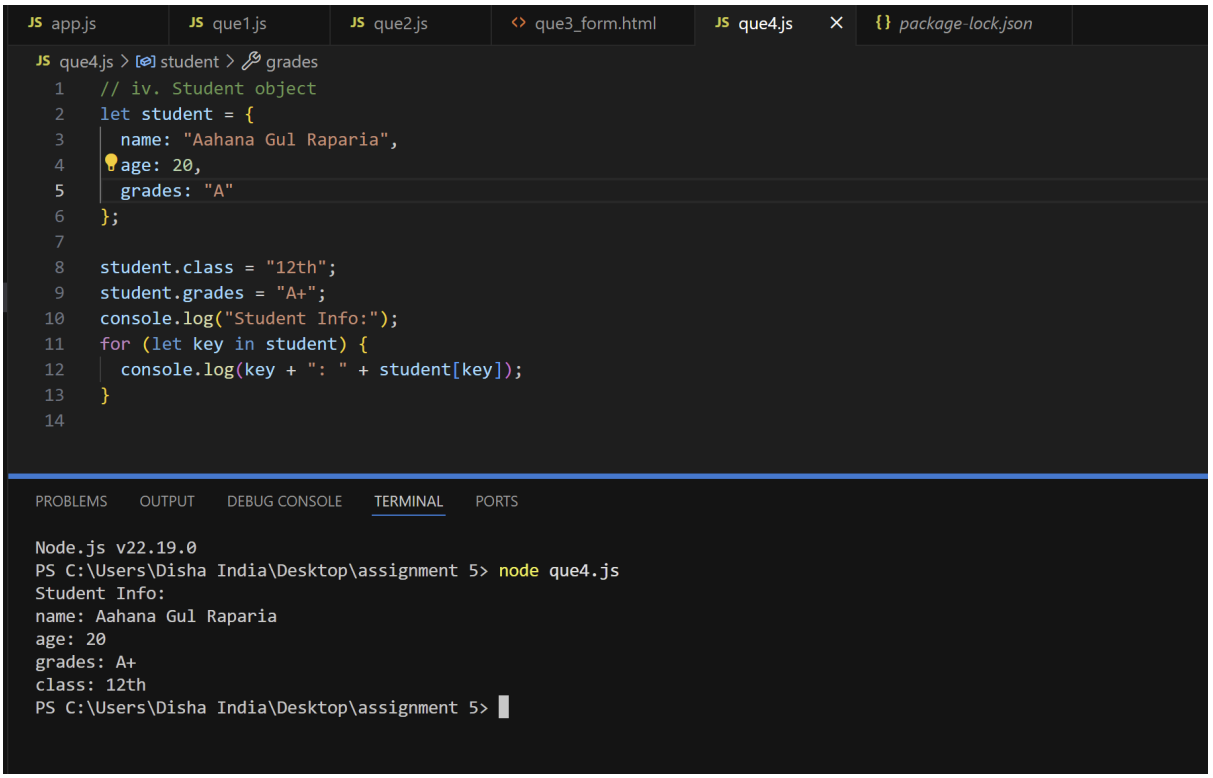






Que.4. iv. Write a JavaScript program to create an object representing a student (with properties like name, age, grades) and perform the following operations:
Add a new property class.
Update the student's grade.
Display all the student's information.

Ans.



Que.5. v. Create a function that takes an array of numbers and uses the array's built-in methods (like

map(), reduce(), and filter()) to:
Remove all odd numbers.
Multiply the remaining numbers by 2.
Find the sum of the resulting numbers.

ans.