CODEM BOOTCAMP TASK
WEEK – 1
JAVASCRIPT EXERCISES

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IT – III Year

GITHUB LINK : https://github.com/vasujoe2005/CodemBootCamp.git

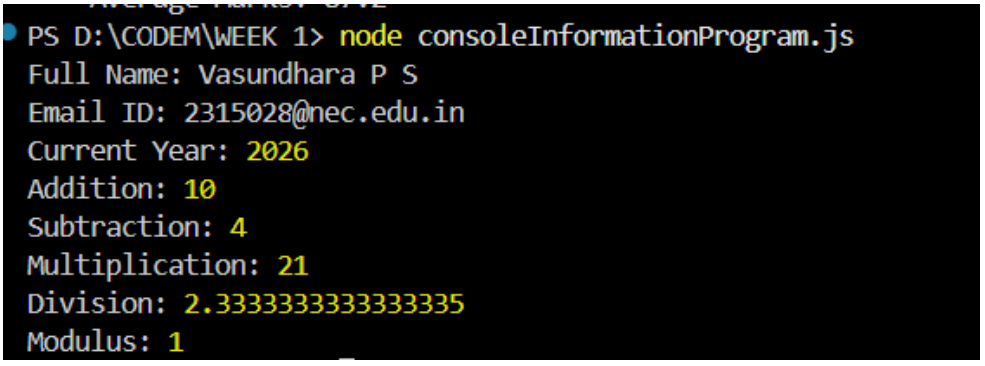
Task 1: Console Information Program
Requirements

- Create variables to store:
  - full name (string)
  - email ID (string)
  - current year (number)
- Create at least two numeric variables.
- Perform at least five different mathematical operations using those numbers
- Display all personal details using console.log().
- Display the result of each mathematical operation using console.log() with clear labels.

Program:

```
//Personal Details
let fullName="Vasundhara P S";
let emailID="2315028@nec.edu.in";
let currentYear=2026;
console.log("Full Name:",fullName);
console.log("Email ID:",emailID);
console.log("Current Year:",currentYear);
//Mathematical Operations
let a=7;
let b=3;
console.log("Addition:",a+b);
console.log("Subtraction:",a-b);
console.log("Multiplication:",a*b);
console.log("Division:",a/b);
console.log("Modulus:",a%b);
```

Output:



Task 2: Arithmetic Operations Program Requirements

- Create two numeric variables.
- Perform the following operations:
  - addition
  - subtraction
  - multiplication
  - division
  - modulus
  - power
- Store each operation result in a separate variable.
- Log each result to the console with a meaningful description.

Program:

```
//initailise values
let x=7;
let y=3;
//Arithimetic operations calculations
let add=x+y;
let sub=x-y;
let mul=x*y;
let div=x/y;
let mod=x%y;
let power=x**y;
//Display
console.log("Addition:",add);
console.log("Subtraction:",sub);
console.log("Multiplication:",mul);
console.log("Division:",div);
console.log("Modulus:",mod);
console.log("Power:",power);
```

Output:

```
PS D:\CODEM\WEEK 1> node arithimeticOperationsProgram.js
Addition: 10
Subtraction: 4
Multiplication: 21
Division: 2.3333333333333335
Modulus: 1
Power: 343
```

Task 3: Simple Interest Calculator Requirements

- Create variables for:
  - principal amount (number)
  - rate of interest (number)
  - time period (number)
- Calculate simple interest using the formula:
  - (principal * rate * time) / 100
- Store the calculated interest in a variable.
- Display the final result using console.log() in sentence format.

Program:

```
//SI(Simple Interest) Calculator
let principal=10000;
let rate=10;
let time=2;
let si=(principal*rate*time)/100;
console.log("SI:" + si);
```

Output:

```
PS D:\CODEM\WEEK 1> node SICalculator.js
SI:2000
PS D:\CODEM\WEEK 1>
```

Task 4: String Processing Program
Requirements

- Create a variable to store a full name (string).
- Convert the string to uppercase and store the result.
- Convert the string to lowercase and store the result.
- Find and store the length of the string.
- Extract the first name from the full name.
- Log all results individually using console.log() with proper labels.

Program:

```
//initialise
let fullName="Vasundhara P S";
//String Operations
let upperCaseName=fullName.toUpperCase();
let lowerCaseName=fullName.toLowerCase();
let nameLength=fullName.length;
let firstName=fullName.split(" ")[0];
//Display
console.log("Original Name:",fullName);
console.log("Uppercase:",upperCaseName);
console.log("Lowercase:",lowerCaseName);
console.log("Length:",nameLength);
console.log("First Name:",firstName);
```

Output:

```
PS D:\CODEM\WEEK 1> node stringProcessingProgram.js
Original Name: Vasundhara P S
Uppercase: VASUNDHARA P S
Lowercase: vasundhara p s
Length: 14
First Name: Vasundhara
PS D:\CODEM\WEEK 1>
```

Task 5: Template Literal Output Program Requirements

- Create variables to store:
  - name (string)
  - role (string)
  - organization or company name (string)
- Use template literals to generate a formatted introduction message.
- Display the generated message using console.log().

Program:

```
//initialise
let name="Vasundhara P S";
let role="IT Student";
let organisation="NEC Kovilpatti";
//use of template literal
let message=`Greetings all, I am ${name}.My role is an ${role} at ${organisation}.`;
//print output
console.log(message);
```

Output:

```
PS D:\CODEM\WEEK 1> node templateLiteralOutputProgram.js
Greetings all, I am Vasundhara P S.My role is an IT Student at NEC Kovilpatti.
PS D:\CODEM\WEEK 1>
```

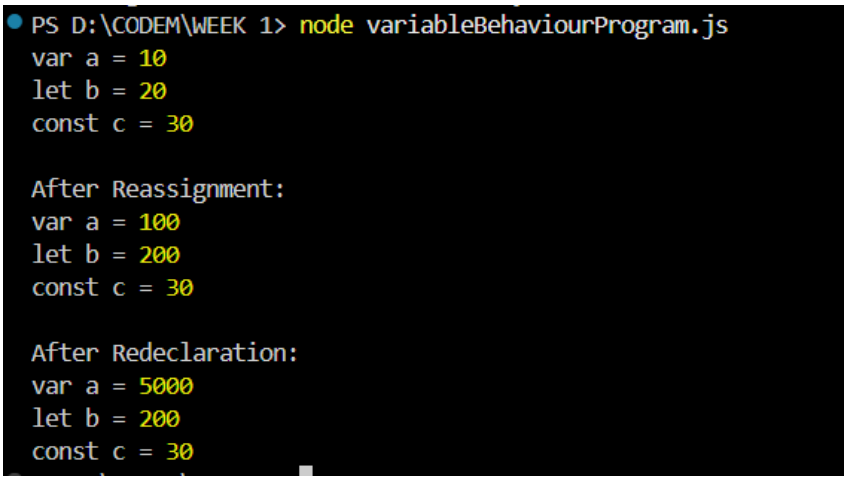
Task 6: Variable Behavior Program
Requirements

- Declare one variable using var.
- Declare one variable using let.
- Declare one variable using const.
- Attempt to reassign values to each variable.
- Attempt redeclaration where applicable.
- Log the results to the console.
- Add comments explaining the observed behavior.

Program:

```
//Declaration
var a=10;
let b=20;
const c=30;
console.log("var a =",a);
console.log("let b =",b);
console.log("const c =",c);
//Reassignment
a=100;
b=200;
// c=300;   // TypeError Occurs
console.log("\nAfter Reassignment:");
console.log("var a =",a);
console.log("let b =",b);
console.log("const c =",c);
//Observation: var and let allows reassignment.
//const does not allow reassignment.
//Redeclaration
var a=5000;
// let b=6000;   //SyantaxError
// const c=7000; //SyantaxError
console.log("\nAfter Redeclaration:");
console.log("var a =",a);
console.log("let b =",b);
console.log("const c =",c);
//Observation: var allows redeclaration but let and const does not
```

Output:



Task 7: HTML and JavaScript Integration Requirements

- Create a basic HTML file.
- Create an external JavaScript file.
- Link the JavaScript file to the HTML file.
- Use JavaScript to log a message when the page loads.
- Display the message using console.log().

index.html(HTML File):

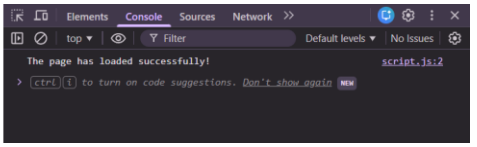
```
<!DOCTYPE html>
<html lang="en">
<head>
   <meta charset="UTF-8">
   <title>HTML and JavaScript Integration</title>
</head>
<body></body>
   <h1>HTML & JavaScript Integration Task</h1>
   <script src="script.js"></script>
</body>
</html>
```

script.js:

```
window.onload = function() {
   console.log("The page has loaded successfully!");
};
```

Output:

HTML & JavaScript Integration Task



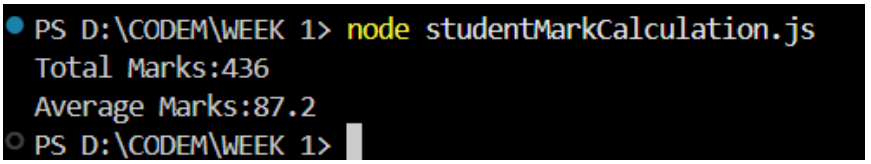
Task 8: Student Marks Calculation Program Requirements

- Create variables to store marks of five subjects.
- Calculate the total marks and store the result.
- Calculate the average marks and store the result.
- Display total and average using template literals.
- Log the output to the console.

Program:

```
//initalisation
let math=85;
let science=90;
let english=78;
let social=88;
let computer=95;
let total=math+science+english+social+computer;
let average=total/5;
console.log(`Total Marks:${total}`);
console.log(`Average Marks:${average}`);
```

Output:



Task 9: Email String Analyzer Program

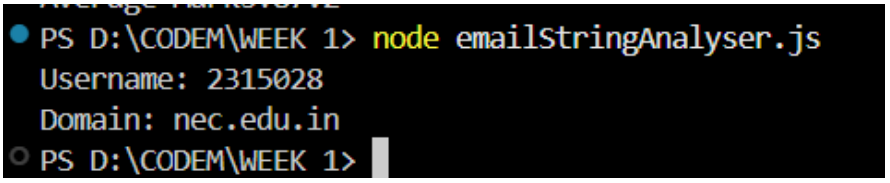
Requirements

- Create a variable to store an email address.
- Extract the username part from the email.
- Extract the domain name from the email.
- Store both values in separate variables.
- Log the username and domain separately using console.log().

Program:

```
let email="2315028@nec.edu.in";
let username=email.substring(0, email.indexOf("@"));
let domain=email.substring(email.indexOf("@")+1);
console.log("Username:",username);
console.log("Domain:",domain);
```

Output:



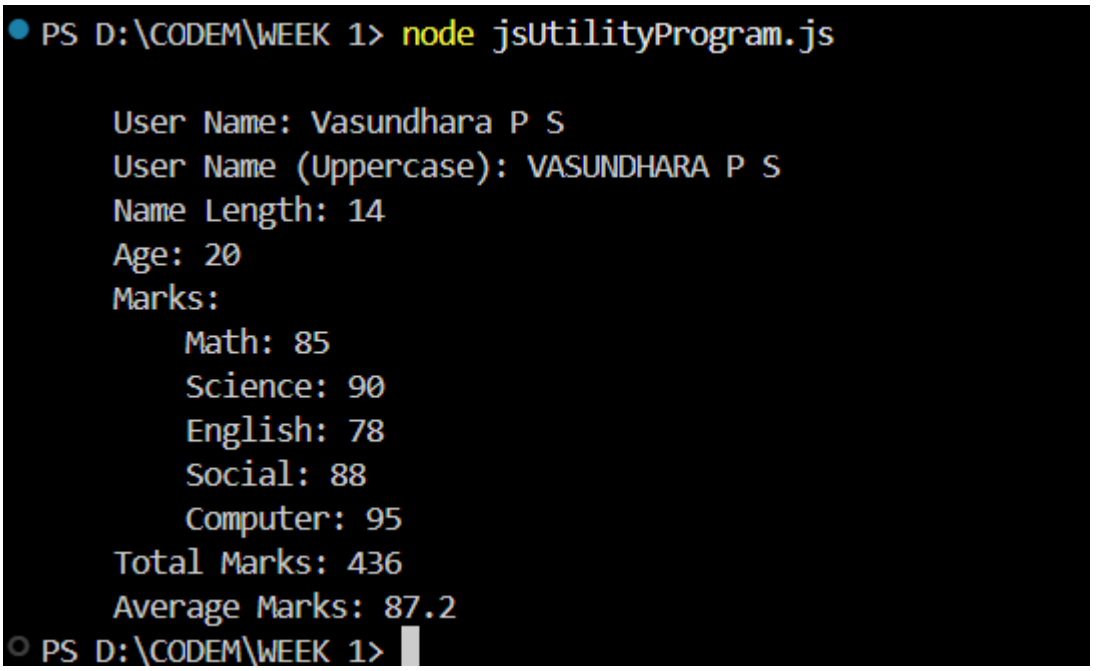
Task 10: JavaScript Utility Program (Programming Mandatory) Requirements

- Create variables to store:
  - user name (string)
  - age (number)
  - marks of five subjects (numbers)
- Calculate total marks.
- Calculate average marks.
- Convert the user name to uppercase.
- Find the length of the user name.
- Display all calculated and processed values using template literals and
- Log the final output using console.log().

Program:

```
//initialise
let userName="Vasundhara P S";
let age=20;
let math=85;
let science=90;
let english=78;
let social=88;
let computer=95;
let totalMarks=math+science+english+social+computer;
let averageMarks=totalMarks/5;
let upperCaseName=userName.toUpperCase();
let nameLength=userName.length;
let finalOutput=`
   User Name: ${userName}
   User Name (Uppercase): ${upperCaseName}
   Name Length: ${nameLength}
   Age: ${age}
   Marks:
      Math: ${math}
      Science: ${science}
      English: ${english}
      Social: ${social}
      Computer: ${computer}
   Total Marks: ${totalMarks}
   Average Marks: ${averageMarks}`;
console.log(finalOutput);
```

Output:


PS D:\CODEM\WEEK 1> node jsUtilityProgram.js
User Name: Vasundhara P S
User Name (Uppercase): VASUNDHARA P S
Name Length: 14
Age: 20
Marks:
Math: 85
Science: 90
English: 78
Social: 88
Computer: 95
Total Marks: 436
Average Marks: 87.2
PS D:\CODEM\WEEK 1>