GANPAT UNIVERSITY
U.V. PATEL COLLEGE OF ENGINEERING
B.Tech 5th Semester CE

2CEIT5PE4: Software Packages

Practical – 2

Aim :- Console based Node.js applications.

1. **Create Node.js application which allow users to perform basic mathematical operations such as addition, subtraction, multiplication, and division.**

Description :-

- Create a Node.js script that takes command-line arguments to perform the desired mathematical operation.
- Implement a logic for each mathematical operation (addition, subtraction, multiplication and division).
- Handle invalid inputs and display appropriate error messages.
- Ensure that the application can handle both integer and floating-point numbers.

Code :-

```
var a = process.argv
var x = parseInt(a[2])
var y = parseInt(a[3])
var opr = a[4]

console.log("Number 1 :",x)
console.log("Number 2 :",y)

switch(opr) {
   case '+' :
      result = x+y
```

```
        console.log(`${x} + ${y} = ${result}`)
        break
    case '-' :
        result = x-y
        console.log(`${x} - ${y} = ${result}`)
        break
    case '*' :
        result = x*y
        console.log(`${x} * ${y} = ${result}`)
        break
    case '/' :
        result = x/y
        console.log(`${x} / ${y} = ${result}`)
        break
    default :
        console.log("Invalid operator.")
        break
}
```

Output :-

```
PS D:\College\5th Sem\Software Packages (SP)\Practical 2> node .\P2_1.js 5 2 -
Number 1 : 5
Number 2 : 2
5 - 2 = 3
PS D:\College\5th Sem\Software Packages (SP)\Practical 2>
```

2. **Write a node.js program to build a console application which allow users to perform the following operations:**

   - Take contact details from user using ReadLine package.
   - Add a new contact details like name & phone number (Length should be 10) and store details in an array.
   - Display value of an array.

Code :-

```
const readline = require('readline');
const a1 = readline.createInterface(process.stdin, process.stdout);
a1.question('Enter your Name : ', (name) => {
   a1.question('Enter mobile number : ', (num) => {
      if(num.length == 10) {
         console.log(`Your Name is : ${name}`);
         console.log(`Your Mobile Number is : ${num}`);
      }
      else {
         console.log(`Enter a valid mobile number.`);
      }
   });
});
```

Output :-

```
PS D:\College\5th Sem\Software Packages (SP)\Practical 2> node .\P2_2.js
Enter your Name : Divy
Enter mobile number : 9712896080
Your Name is : Divy
Your Mobile Number is : 9712896080
```

3. **Write a Node.js program to create an object named book using object literal syntax. Add book_title, author and publish_year as properties to the book object and assign it's appropriate values. Now create function print_info() to print the book object to the console so the final output looks as below:-**

title: Harry Potter and the Sorcerer's Stone
author: J.K. Rowling
publish_year: 1997

Code :-

```
const book = {
   book_title: "Harry Potter and the Sorcerer's Stone",
   author: "J.K. Rowling",
   publish_year: 1997
}

function print_info() {
   console.log(`Book Title : ${book.book_title}`);
   console.log(`Author : ${book.author}`);
   console.log(`Publish Year : ${book.publish_year}`);
}

print_info();
```

Output :-

```
PS D:\College\5th Sem\Software Packages (SP)\Practical 2> node .\P2_3.js
Book Title : Harry Potter and the Sorcerer's Stone
Author : J.K. Rowling
Publish Year : 1997
PS D:\College\5th Sem\Software Packages (SP)\Practical 2>
```

4. **Create an array named products. Add objects to the array. Each object should be a single product, with 3 properties: name, inventory and unit_price. Create two functions named listProducts() and totalValue(). A listProducts() function accepts a parameter -- the array of products and it should return an array of the names of the products. A function named totalValue() should accept a parameter -- the array of products and it should return the total value of all of the products in the array. To calculate the total value of one product multiply the inventory value with the unit_price.**

Code :-

```
let vegetables = [
{name : "Tomato",quantity : 1000,price : 160},
{name : "Potato",quantity :  500,price : 20},
{name : "Onion",quantity : 250,price : 40}
];

function listVegetables(veg){
    const vegt = [];
    for (let i = 0; i<vegetables.length; i++){
        vegt.push(vegetables[i].name);
    }
    return vegt;
}
console.log(`Vegetables Name : ${listVegetables(vegetables)}`);

function totalPrice(veg) {
    let total = 0;
    for (let j = 0; j<vegetables.length; j++) {
        total += vegetables[j].quantity * vegetables[j].price;
    }
    return total;
}
console.log(`Total Price of all vegetables : ${totalPrice(vegetables)}`);
```

Output :-

```
PS D:\College\5th Sem\Software Packages (SP)\Practical 2> node .\P2_4.js
Vegetables Name : Tomato,Potato,Onion
Total Price of all vegetables : 180000
```