

## 1)Arithemactic operation

code:

```
//Arithmetic operations

class Arithmetic {

    Number1: number;

    Number2: number;

    constructor(num1: number, num2: number) {

        this.Number1 = num1

        this.Number2 = num2;

    }

    //Addtion

    public Addition(): number {

        return this.Number1 + this.Number2

    }

    //Substraction

    public Substraction(): number {

        return this.Number1 - this.Number2

    }

    //Multiplication

    public Multiplication(): number {

        return this.Number1 * this.Number2

    }

    //Division

    public Division(): number {

        return this.Number1 / this.Number2

    }

}
```

```

    }
}

var Obj1 = new Arithmetic(20,10)

console.log("Arithmetic operations on 20 and 10 are :");

console.log("Addition is :"+Obj1.Addition());

console.log("Substraction is :"+Obj1.Substraction());

console.log("Multiplication is :"+Obj1.Multiplication());

console.log("Division is :"+Obj1.Division());

console.log("-----")

var Obj1 = new Arithmetic(21,12)

console.log("Arithmetic operations on 21 and 12 are :");

console.log("Addition is :"+Obj1.Addition());

console.log("Substraction is :"+Obj1.Substraction());

console.log("Multiplication is :"+Obj1.Multiplication());

console.log("Division is :"+Obj1.Division());

```

### Solution:

```

C:\Users\swaph\Desktop\MEAN\MEAN_Assignments_Solution\Assignment3>node Arithmetic
Arithmetic operations on 20 and 10 are :
Addition is :30
Substraction is :10
Multiplication is :200
Division is :2
-----
Arithmetic operations on 21 and 12 are :
Addition is :33
Substraction is :9
Multiplication is :252
Division is :1.75

```

## Problem 2 : Area of circle

### Code :

```
//Area of circlce
```

```

class Area {

    //Data members(characteristics)

    Radius: number;

    PI: number = 3.14;

    constructor(radius: number) {

        this.Radius = radius;

    }

    //Member function (Behaviour)

    CalculateArea() {

        return this.PI * Math.pow(this.Radius, 2);

    }

}

var area1 = new Area(5);

console.log("Area of 5 is " + area1.CalculateArea());

console.log("-----")

var area2 = new Area(9);

console.log("Area of 9 is " + area2.CalculateArea());

```

### Solution:

```

C:\Users\swapn\Desktop\MEAN\MEAN_Assignments_Solution\Assignment3>node Area.js
Area of 5 is 78.5
-----
Area of 9 is 254.34

```

## Problem 3: Circumference

### Code :

```

//Inheritance

//Area of circle

```

```

class Circle {

    //Data members(characteristics)

    Radius: number;

    PI: number = 3.14;

    constructor(radius: number) {

        this.Radius = radius;

    }

    //Member function (Behaviour)

    CalculateArea() {

        return this.PI * Math.pow(this.Radius, 2);

    }

}

```

```

class Circlex extends Circle

```

```

{

    constructor(radius : number)

    {

        super(radius);

    }

    Circumference()

    {

        return 2 * this.PI * this.Radius;

    }

}

```

```

var Object1 = new Circlex(5);

```

```
console.log("Number is 5 ");  
  
console.log(Object1.CalculateArea());  
  
console.log(Object1.Circumference());  
  
console.log("-----");  
  
var Object1 = new Circlex(10);  
  
console.log("Number is 10 ");  
  
console.log(Object1.CalculateArea());  
  
console.log(Object1.Circumference());
```

### Solution :

```
Number is 5  
78.5  
31.400000000000002  
-----  
Number is 10  
314  
62.800000000000004
```