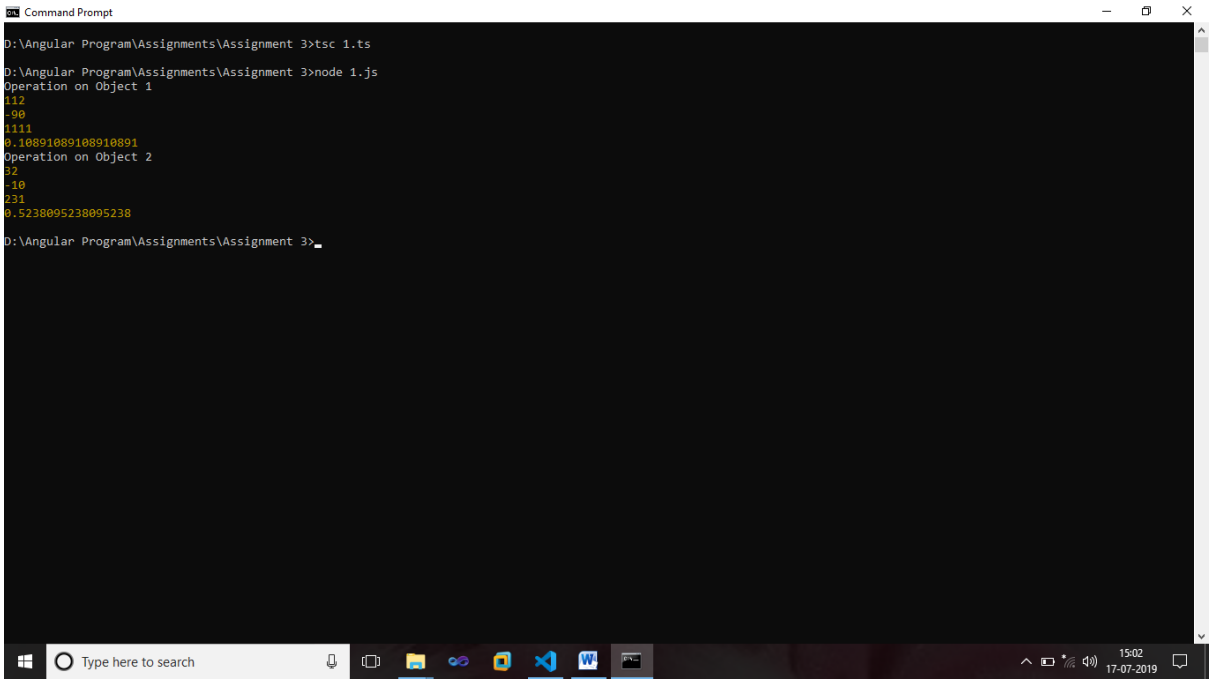
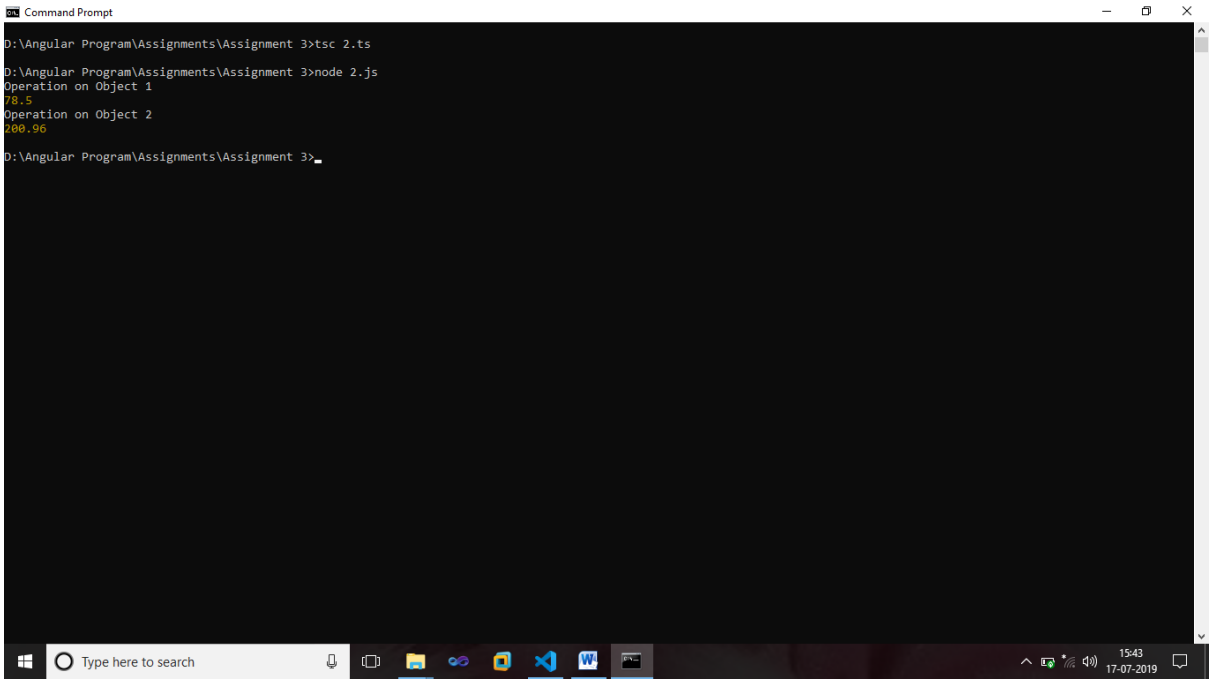
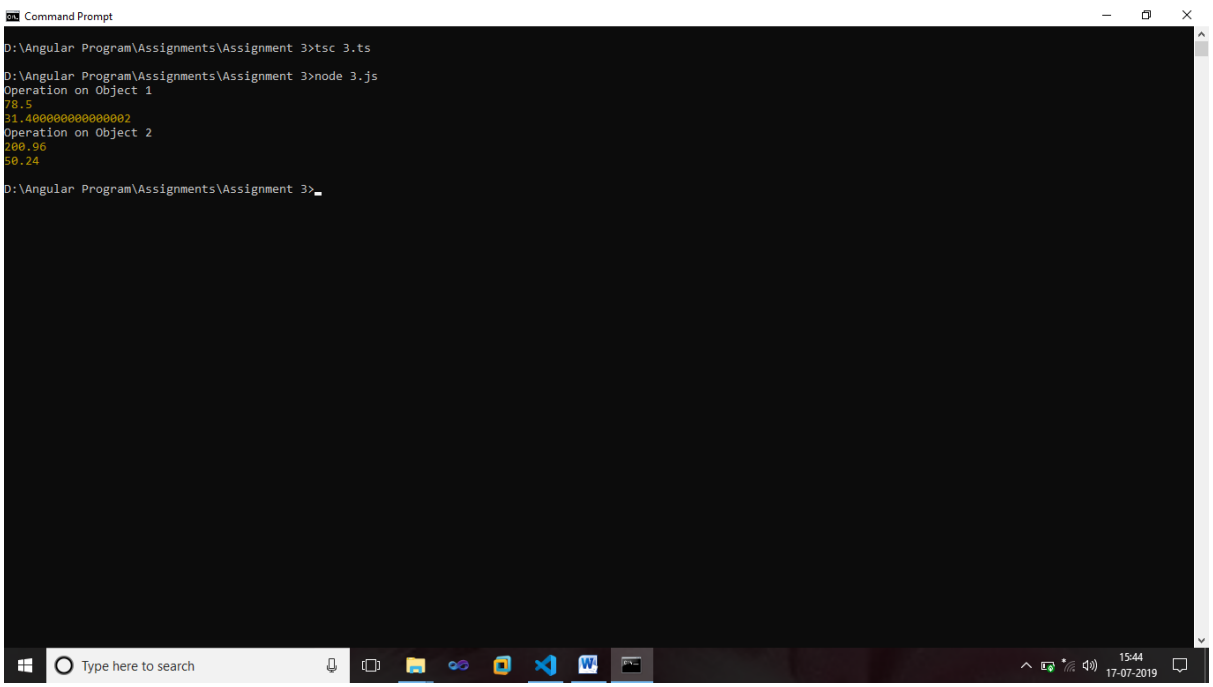
```ts
//1.ts
class Arithmetic
{
   no1:number;
   no2:number;

   Arithmetic(number1:number,number2:number)
   {
      this.no1=number1;
      this.no2=number2;
   }

   Addition():void
   {
      console.log(this.no1+this.no2);
   }

   Subtraction():void
   {
      console.log(this.no1-this.no2);
   }

   Multiplication():void
   {
      console.log(this.no1*this.no2);
   }

   Division():void
   {
      console.log(this.no1/this.no2);
   }

}
var obj1=new Arithmetic();
console.log("Operation on Object 1");
obj1.Arithmetic(11,101);
obj1.Addition();
obj1.Subtraction();
obj1.Multiplication();
obj1.Division();

var obj2=new Arithmetic();
console.log("Operation on Object 2");
obj2.Arithmetic(11,21);
obj2.Addition();
obj2.Subtraction();
obj2.Multiplication();
obj2.Division();
```


Command Prompt
D:\Angular Program\Assignments\Assignment 3>tsc 1.ts
D:\Angular Program\Assignments\Assignment 3>node 1.js
Operation on Object 1
112
-90
1111
0.10891089108910891
Operation on Object 2
32
-10
231
0.5238095238095238
D:\Angular Program\Assignments\Assignment 3>
Type here to search
15:02
17-07-2019

```
//2.ts
class Circle
{
    rad:number;
    pi:number;

    Circle(radius: number, pi?:number)
    {
        this.rad=radius;
        if(pi==undefined)
        {
            this.pi=3.14;
        }

    }

    Area():number
    {
        var area:number;

        area=this.pi*this.rad*this.rad;
        return area;
    }
}

var obj3=new Circle();
console.log("Operation on Object 1");
var iret1:number;
obj3.Circle(5);
iret1=obj3.Area();
console.log(iret1);

var obj4=new Circle();
console.log("Operation on Object 2");
var iret2:number;
obj4.Circle(8);
iret2=obj4.Area();
console.log(iret2);
```


Command Prompt
D:\Angular Program\Assignments\Assignment 3>tsc 2.ts
D:\Angular Program\Assignments\Assignment 3>node 2.js
Operation on Object 1
78.5
Operation on Object 2
200.96
D:\Angular Program\Assignments\Assignment 3>
Type here to search
15:43
17-07-2019

```ts
//3.ts
class Circle
{
    rad:number;
    pi:number;

    Circle(radius: number, pi?:number)
    {
        this.rad=radius;
        if(pi==undefined)
        {
            this.pi=3.14;
        }

    }

    Area():number
    {
        var area:number;

        area=this.pi*this.rad*this.rad;
        return area;
    }
}

class CircleX extends Circle
{
    Circumference():number
    {
      var areac:number;

      areac=2*this.pi*this.rad;
      return areac;
    }

}

var obj5=new CircleX();
console.log("Operation on Object 1");
obj5.Circle(5);
console.log(obj5.Area());
console.log(obj5.Circumference());

var obj6=new CircleX();
console.log("Operation on Object 2");
obj6.Circle(8);
console.log(obj6.Area());
console.log(obj6.Circumference());
```


Command Prompt
D:\Angular Program\Assignments\Assignment 3>tsc 3.ts
D:\Angular Program\Assignments\Assignment 3>node 3.js
Operation on Object 1
78.5
31.400000000000002
Operation on Object 2
200.96
50.24
D:\Angular Program\Assignments\Assignment 3>
Type here to search
15:44
17-07-2019