Experiment – 13 : Write a C/C++/Java/Python program for classifying the various types of cohesion.

Cohesion refers to the extent to which a class is defined to do a **specific specialized task**. A class created with high cohesion is targeted towards a single specific purpose, rather than performing many different purposes.

There are two types of cohesion -

- Low cohesion(a bad programming design)
- High Cohesion(a good programming design)

Example: Suppose we have a class that multiplies two numbers, but the same class creates a pop-up window displaying the result. This is an example of a low cohesive class because the window and the multiplication operation don't have much in common. To make it high cohesive, we would have to create a class Display and a class Multiply. The Display will call Multiply's method to get the result and display it. This way to develop a high cohesive solution.

// Java program to illustrate

```
class Multiply
{
int a = 5;
int b = 5;
publicintmul(int a, int b)
{
this.a = a;
this.b = b;
return a * b;
}
}

class Display {
                    public static void main(String[] args)
                    {
                        Multiply m = new Multiply();
                        System.out.println(m.mul(5,   5));
                    }
}
```

Output

25

```
// Java program to illustrate
// high cohesive behavior
```

```
class Name {
        String name;
        public String getName(String name)
        {
                this.name = name;
                return name;
        }
}
class Age {
        int age;
        publicintgetAge(int age)
        {
                this.age = age;
                return age;
        }
}
class Number {
        intmobileno;
        publicintgetNumber(intmobileno)
        {
                this.mobileno = mobileno;
                returnmobileno;
        }
}
```

```
class Display {
        public static void main(String[] args)
        {
                Name n = new Name();
                System.out.println(n.getName("Geeksforgeeks"));
                Age a = new Age();
                System.out.println(a.getAge(10));
                Number no = new Number();
                System.out.println(no.getNumber(1234567891));
        }

}
```

Output

Geeksforgeeks

10

1234567891

Difference between high cohesion and low cohesion:

High cohesion is when you have a class that does a well-defined job. Low cohesion is when a class does a lot of jobs that don't have much in common.

High cohesion gives us better-maintaining facility and Low cohesion results in monolithic classes that are difficult to maintain, understand and reduce re- usability