

6. Demonstrate method overloading and method overriding in Java.

Method overloading

```
MethodOverloading.java
1 class Polygon
2 {
3     public void area(float r)
4     {
5         System.out.println("\n Area of circle : " + r*r*3.14f);
6     }
7     //visit ---> itvoyagers.in
8     public void area(int l,int w)
9     {
10        System.out.println("\n Area of Rectangle : " + w*l);
11    }
12
13    public void area(int s)
14    {
15        System.out.println("\n Area of circle : " + s*s);
16    }
17 }
18 //visit ---> itvoyagers.in
19 class MethodOverloading
20 {
21     public static void main(String[] args)
22     {
23         Polygon p = new Polygon();
24         p.area(3.2f);
25         p.area(7,6);
26         p.area(5);
27     }
28 }
```

Output:

```
Area of circle : 32.153603
Area of Rectangle : 42
Area of circle : 25
```

Method overriding

```
1 class Car
2 {
3     public void engine()
4     {
5         System.out.println("\n Car engine : old V4 Engine");
6     }
7     //visit ---> itvoyagers.in
8     public void color()
9     {
10        System.out.println("\n Car color : Red");
11    }
12 }
13 //visit ---> itvoyagers.in
14 class BMW extends Car
15 {
16     public void engine()
17     {
18         System.out.println("\n Car engine : new V12 Engine");
19     }
20     //visit ---> itvoyagers.in
21     public void color()
22     {
23         System.out.println("\n Car color : White");
24     }
25 }
26
27 class MethodOverriding
28 {
29     public static void main(String[] args)
30     {
31         Car i4 = new Car();
32         i4.engine();
33         i4.color();
34         //visit ---> itvoyagers.in
35         Car i8 = new BMW();
36         i8.engine();
37         i8.color();
38     }
39 }
40
```

Output:

```
Car engine : old V4 Engine
```

```
Car color : Red
```

```
Car engine : new V12 Engine
```

```
Car color : white
```