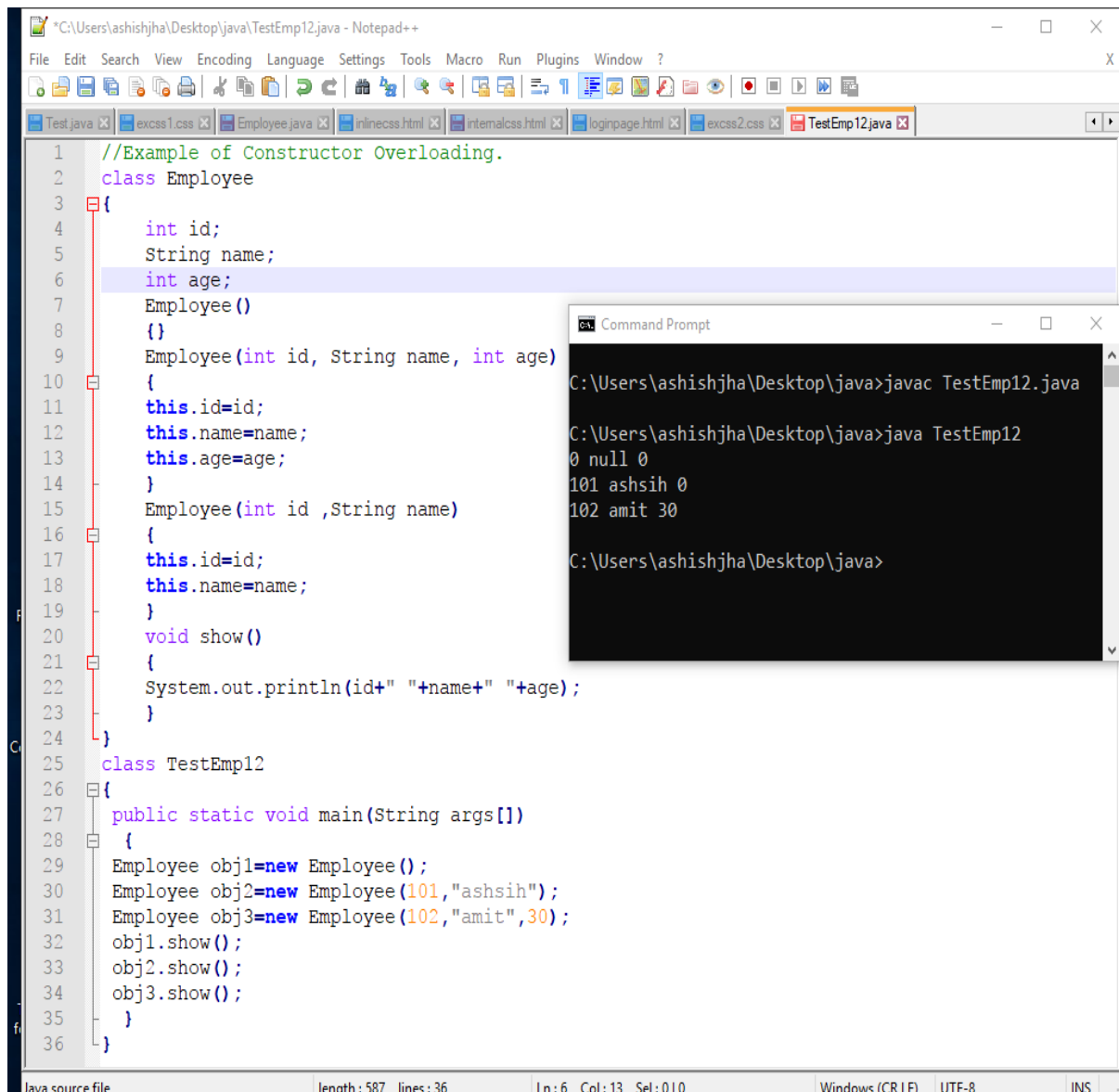


Department:- BCA
Faculty Name:- Er. Ashish Kumar
Subject:- JAVA(5th sem)
Topic:-Basic Constructor Overloading

Constructor Overloading in Java :- Constructor overloading in Java is a technique of having more than one constructor with different parameter lists. They are arranged in a way that each constructor performs a different task. They are differentiated by the compiler by the number of parameters in the list and their types.

Example:-



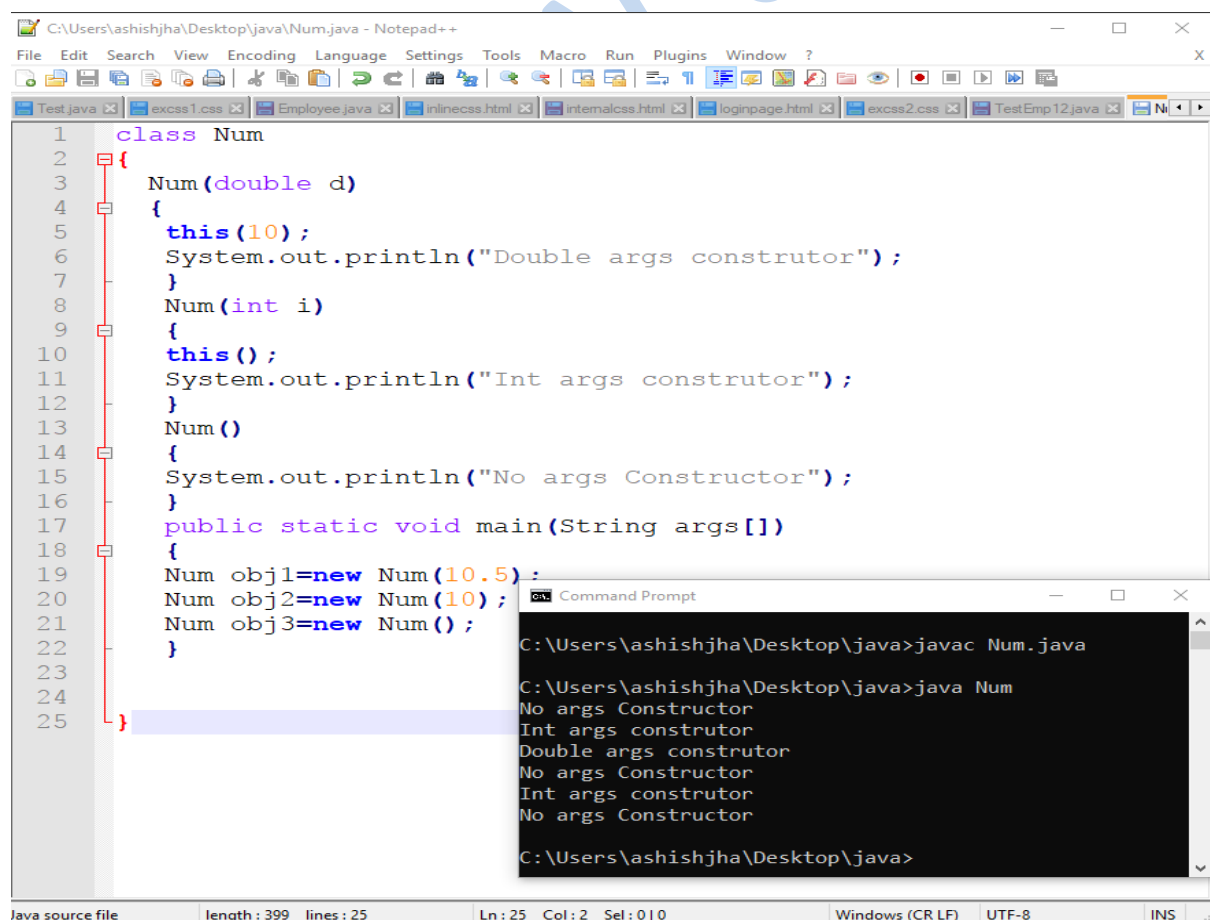
```
1 //Example of Constructor Overloading.
2 class Employee
3 {
4     int id;
5     String name;
6     int age;
7     Employee()
8     {}
9     Employee(int id, String name, int age)
10    {
11        this.id=id;
12        this.name=name;
13        this.age=age;
14    }
15    Employee(int id ,String name)
16    {
17        this.id=id;
18        this.name=name;
19    }
20    void show()
21    {
22        System.out.println(id+" "+name+" "+age);
23    }
24 }
25 class TestEmp12
26 {
27     public static void main(String args[])
28     {
29         Employee obj1=new Employee();
30         Employee obj2=new Employee(101,"ashsih");
31         Employee obj3=new Employee(102,"amit",30);
32         obj1.show();
33         obj2.show();
34         obj3.show();
35     }
36 }
```

```
C:\Users\ashishjha\Desktop\java>javac TestEmp12.java
C:\Users\ashishjha\Desktop\java>java TestEmp12
0 null 0
101 ashsih 0
102 amit 30
C:\Users\ashishjha\Desktop\java>
```

Difference between constructor and method in Java :-

Constructor	Method
➤ A constructor is used to initialize the state of an object.	➤ A method is used to expose the behavior of an object.
➤ A constructor must not have a return type	➤ A method must have a return type.
➤ A constructor is invoked implicitly.	➤ A method is not provided by the compiler in any case.
➤ The Java compiler provides a default constructor if you don't have any constructor in a class.	➤ The Java compiler provides a default constructor if you don't have any constructor in a class.
➤ The constructor name must be same as the class name.	➤ The method name may or may not be same as the class name.

Example(for interview purpose)



```
1 class Num
2 {
3     Num(double d)
4     {
5         this(10);
6         System.out.println("Double args construtor");
7     }
8     Num(int i)
9     {
10        this();
11        System.out.println("Int args construtor");
12    }
13    Num()
14    {
15        System.out.println("No args Constructor");
16    }
17    public static void main(String args[])
18    {
19        Num obj1=new Num(10.5);
20        Num obj2=new Num(10);
21        Num obj3=new Num();
22    }
23 }
24
25
```

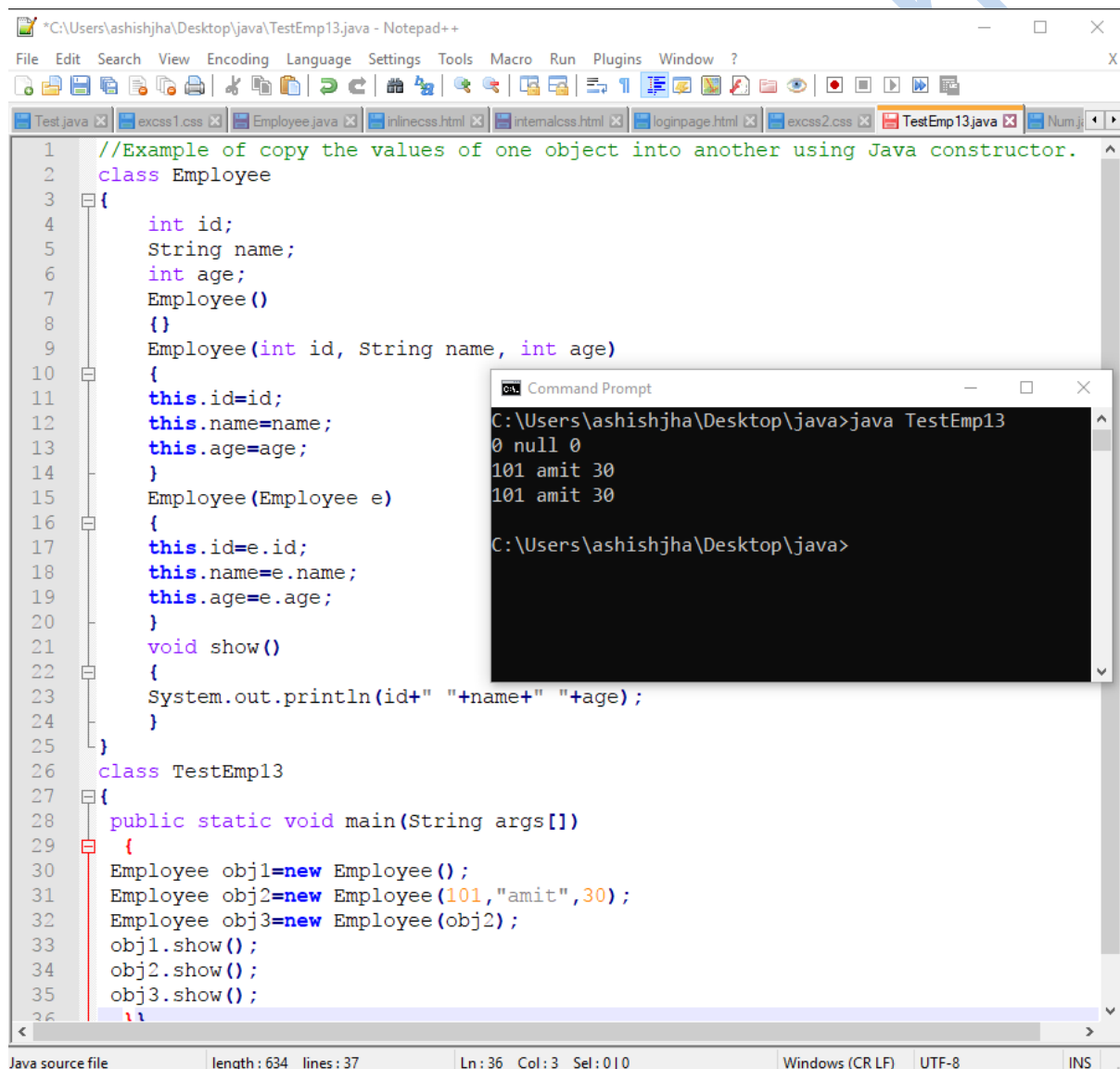
```
C:\Users\ashishjha\Desktop\java>javac Num.java
C:\Users\ashishjha\Desktop\java>java Num
No args Constructor
Int args construtor
Double args construtor
No args Constructor
Int args construtor
No args Constructor
C:\Users\ashishjha\Desktop\java>
```

Note :- There is no copy constructor in Java. However, we can copy the values from one object to another like copy constructor in C++.

There are many ways to copy the values of one object into another in Java. They are:

- By constructor
- By assigning the values of one object into another
- By clone() method of Object class(using in Inheritance)

Example:- (By constructor)



```
//Example of copy the values of one object into another using Java constructor.
class Employee
{
    int id;
    String name;
    int age;
    Employee()
    {}
    Employee(int id, String name, int age)
    {
        this.id=id;
        this.name=name;
        this.age=age;
    }
    Employee(Employee e)
    {
        this.id=e.id;
        this.name=e.name;
        this.age=e.age;
    }
    void show()
    {
        System.out.println(id+" "+name+" "+age);
    }
}

class TestEmp13
{
    public static void main(String args[])
    {
        Employee obj1=new Employee();
        Employee obj2=new Employee(101,"amit",30);
        Employee obj3=new Employee(obj2);
        obj1.show();
        obj2.show();
        obj3.show();
    }
}
```

Command Prompt

```
C:\Users\ashishjha\Desktop\java>java TestEmp13
0 null 0
101 amit 30
101 amit 30

C:\Users\ashishjha\Desktop\java>
```