



MANAV RACHNA UNIVERSITY, FARIDABAD

Department of Computer Science & Technology

Course: B.Tech. CSE

Semester: III

Subject: Object Oriented Programming using Java (CSH201B-T)

Tutorial: 8 Final, Abstract Class, Interface

Objective: Student will be able to understand Concepts of Final, Abstract Class, Interface

Course Outcomes:

CSH201B.1: To impart **understanding** of basic programming concepts in Java language.

CSH201B.2: To enable the student to articulate given program scenario and **apply** different programming constructs.

CSH201B.3: To **analyze** the semantics of the given problem statement and illustrate the programming techniques to solve them.

Blooms Taxonomy Level: BT1, BT2, BT3

1. What will happen if we make a class as final?
2. Can we create the object of abstract class?
3. What is the difference between abstract class and final class?
4. How can we invoke the parameterized constructor of super class from sub class constructors? Give example.
5. What is the output of this program?

```
class A
{
    public int i;
    private int j;
}
class B extends A
{
    void display()
    {
        super.j = super.i + 1;
        System.out.println(super.i + " " + super.j);
    }
}
class inheritance
{
    public static void main(String args[])
    {
        B obj = new B();
    }
}
```



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```
        obj.i=1;
        obj.j=2;
        obj.display();
    }
}
```

6. What is the output of this program?

```
abstract class A
{
    int i;
    abstract void display();
}
class B extends A
{
    int j;
    void display()
    {
        System.out.println(j);
    }
}
class Abstract_demo
{
    public static void main(String args[])
    {
        B obj = new B();
        obj.j=2;
        obj.display();
    }
}
```

7. What is the output of this program?

```
class A
{
```



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```
    int i;
    void display()
    {
        System.out.println(i);
    }
}
class B extends A
{
    int j;
    void display()
    {
        System.out.println(j);
    }
}
class method_overriding
{
    public static void main(String args[])
    {
        B obj = new B();
        obj.i=1;
        obj.j=2;
        obj.display();
    }
}
```
