

School of Computer Science Engineering and Technology

Course- BTech

Course Code- CSET

Year- First

Type- Core

Course Name- Object Oriented Programming Using Java

Semester- Even Batch- BTech 2nd Semester

Tutorial-8

Tutorial No.	Name	CO1	CO2	CO3
1	Basics	✓	--	--

Objective: The main objective of this tutorial is to learn about the basics of Java language.

8.1 What will be the Output of the below code:

```
abstract class Calculate
{
abstract int add(int a, int b);
}
public class MainClass
{
public static void main(String[] args)
{
int result = new Calculate()
{
@Override
int add(int a, int b)
{
return a+b;
}
}.add(11010, 022011);
System.out.println(result);
}
}
```

8.2 What will be the Output of the below code:

```
abstract class Test {
abstract int[] getSumAndSub(int a, int b);
}
public class MainClass extends Test{
public static void main(String[] args)
{
MainClass t=new MainClass ();
int[] ans = t.getSumAndSub(25, 55);
System.out.println("Sum = " + ans[0]);
System.out.println("Sub = " + ans[1]);
}
@Override
int[] getSumAndSub(int a, int b) {
```

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```
int[] ans = new int[2];
ans[0] = a + b;
ans[1] = a - b;
return ans;
}
}
```

8.3 What will be the output of the following program?

```
abstract class AbstractClass
{
    private abstract int abstractMethod();
}

class Test extends AbstractClass{
    int abstractMethod(){
        return 1;
    }
    public static void main(String[] args)
    {
        Test t=new Test();
        t.abstractMethod();
    }
}
```

8.4 What is the result of the following code?

```
abstract class A
{
    abstract void firstMethod();
    void secondMethod()
    {
        System.out.println("SECOND");
        firstMethod();
    }
}

abstract class B extends A
{
    @Override
    void firstMethod()
    {
        System.out.println("FIRST");
        thirdMethod();
    }
    abstract void thirdMethod();
}

class C extends B
{
    @Override
    void thirdMethod()
```

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```
{  
System.out.println("THIRD");  
}  
}  
public class MainClass  
{  
public static void main(String[] args)  
{  
C c = new C();  
c.firstMethod();  
c.secondMethod();  
c.thirdMethod();  
}  
}
```

8.5 What is the output of following code?

```
abstract class X  
{  
public X()  
{  
System.out.println("ONE");  
}  
abstract void abstractMethod();  
}  
class Y extends X  
{  
public Y()  
{  
System.out.println("TWO");  
}  
@Override  
void abstractMethod()  
{  
System.out.println("THREE");  
}  
}  
public class MainClass  
{  
public static void main(String[] args)  
{  
X x = new Y();  
x.abstractMethod();  
}  
}
```

8.6 Which of the following declarations are invalid?

```
abstract class A  
{  
{  
System.out.println("BENNETT");  
}
```

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```
}  
abstract class B extends A  
{  
{  
System.out.println("UNIVERSITY");  
}  
}  
class C extends B  
{  
{  
System.out.println("INDIA");  
}  
}  
public class MainClass  
{  
public static void main(String[] args)  
{  
C c = new C();  
}  
}
```

8.7 What would be the result of the following code?

```
abstract class Example {  
abstract int Example(int a, int b);  
int result(){  
return 0;  
}  
}  
public class MainClass extends Example{  
int Example(int a, int b){  
int x=multiply(a,b);  
return x;  
}  
public static int multiply(int a, int b)  
{  
return a * b;  
}  
public static void main(String[] args)  
{  
int x = 2;  
int y = 5;  
System.out.println(new MainClass().Example(12,5));  
}  
}
```

8.8 What will be the output of the following program?

```
package test;  
abstract class XYZ
```

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```
{
{
System.out.println(1);
}
public XYZ()
{
System.out.println(2);
abstractMethod();
}
abstract void abstractMethod();
}
class PQR extends XYZ
{
{
System.out.println(3);
}
public PQR()
{
System.out.println(4);
}
@Override
void abstractMethod()
{
System.out.println(5);
}
}
public class MainClass
{
public static void main(String[] args)
{
PQR pqr = new PQR();
}
}
```

8.9 What will be the Output of the below code:

```
package test
import java.util.Arrays;
abstract class New {
String arr[];
New(String arr[]){
this.arr=arr;
}
abstract void show();
}
public class MainClass extends New{
MainClass(String[] arr) {
super(arr);
}
void show(){
String s = Arrays.toString(arr);
System.out.println(s);
}
```

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```
public static void main(String[] args)
{
String arr[]={ "Helping", "hands", "are", "better", "than", "praying", "lips" };
MainClass t1=new MainClass(arr);
t1.show();
}
}
```

8.10 Identify the error in below code:

```
package test;
class X
{
public X()
{
System.out.println("Constructor One");
}
abstract X(int i)
{
System.out.println("Constructor Two");
}
}
public class MainClass{
public static void main(String[] args) {
X x=new X();
}
}
```