

1. Write the output?

```
class C
{
    public static void main(String[]args)
    {
        short i = 20;
        double d = i;
        System.out.println("done");
    }
}
```

2. Write the output?

```
class E
{
    static void test(double d)
    {
        System.out.println("test(double)");
    }
    public static void main(String[]args)
    {
        int i = 100;
        test(i);
        System.out.println("done");
    }
}
```

3. Write the output?

```
class F
{
    static double test()
    {
        int i = 10;
        return i;
    }
    public static void main(String[] args)
    {
        System.out.println(test());
    }
}
```

4. Write the output?

```
class K
{
    public static void main(String[] args)
    {
        int i = 10;
        double j = (double)i;
        System.out.println("done");
    }
}
```

5. Write the output?

```
class O
{
    static int test1()
    {
        byte b = 10;
        return b;
    }
    static int test2()
    {
        byte b = 10;
        return (int)b;
    }
    public static void main(String[]args)
    {
        double d1 = test1();
        double d2=(double)test2();
        System.out.println("done");
    }
}
```

6. Write the output?

```
class P
{
    public static void main(String[]args)
    {
        double d1 = 10.9;
```

```
        int i = d1;
        System.out.println("done");
    }
}
```

7. Write the output?

```
class Q
{
    public static void main(String[]args)
    {
        double d1 = 12.9;
        int i = (int)d1;
        System.out.println(d1);
        System.out.println(i);
    }
}
```

8. Assume

We have class A, class B, class C, class D

class A extends Object

class B extends A

class C extends B

class D extends C

Write the output for the following program?

```
class Manager4
```

```
{
    static void test1(A a1)
    {
        System.out.println("test1(A)");
    }
    static void test2(C c1)
    {
        System.out.println("test2(C)");
    }
    static D test3()
    {
        D d1 = new D();
        return d1;//return type is d type
    }
    static B test4()
    {
        return new B();//return type is b type
    }
    public static void main(String[] args)
    {
```

```
test1(new A());  
  
C c1 = new C();  
  
test2(c1);  
  
D d1 = test3();  
  
B b1 = test4();  
  
System.out.println("done");  
  
}  
  
}
```

9. Assume

We have class A, class B, class C, class D

class A extends Object

class B extends A

class C extends B

class D extends C

Write the output for the following program?

```
class Manager5  
{
```

```
public static void main(String[] args)
{
    A a1 = new B();//A a1 = (A) new B() -auto
upcasting
    B b1 = new C();
    C c1 = new D();
    Object o1 = new A();
    System.out.println("done");
}
}
```

10.

Assume

We have class A, class B, class C, class D

class A extends Object

class B extends A

class C extends B

class D extends C

Write the output for the following program?

```
class Manager13
{
    public static void main(String[] args)
    {
        A a1 = new B();
        B b1 = a1;
        System.out.println("done");
    }
}
```

```
}  
}
```

11. Assume

We have class A, class B, class C, class D

class A extends Object

class B extends A

class C extends B

class D extends C

Write the output for the following program?

```
class Manager15  
{  
    public static void main(String[] args)  
    {  
        B b1 = new D();  
        C c1 = b1;  
        System.out.println("done");  
    }  
}
```

12. Assume

We have class A, class B, class C, class D

class A extends Object

class B extends A

class C extends B

class D extends C

Write the output for the following program?

```
class Manager18
{
    static void test1(B b1)
    {
        System.out.println("from test(B)");
    }
    public static void main(String[] args)
    {
        A a1 = new B();
        test1(a1);
        System.out.println("done");
    }
}
```

13. Assume

We have class A, class B, class C, class D

class A extends Object

class B extends A

class C extends B

class D extends C

Write the output for the following program?

```
class Manager21
```

```
{
    static C test()
    {
        A a1 = new D();
        return (C)a1;
    }
    public static void main(String[] args)
    {
        D d1 = (D)test();
        System.out.println("done");
    }
}
```

14. Assume

We have class A, class B, class C, class D

class A extends Object

class B extends A

class C extends B

class D extends C

Write the output for the following program?

```
class Manager22
{
    public static void main(String[] args)
    {
        A a1 = new B();
        B b1 = (B)a1;
```

```
        System.out.println("-----");  
        A a2 = new A();  
        B b2 = (B)a2;  
        System.out.println("-----");  
    }  
}
```

15. Assume

We have class A, class B, class C, class D

class A extends Object

class B extends A

class C extends B

class D extends C

Write the output for the following program?

```
class Manager23  
{  
    public static void main(String[] args)  
    {  
        A a1 = new C();  
        System.out.println(11);  
        B b1 = (B)a1;  
        System.out.println(22);  
        C c1 = (C)a1;  
        System.out.println(33);  
    }  
}
```

16. Assume

We have class A, class B, class C, class D

class A extends Object

class B extends A

class C extends B

class D extends C

Write the output for the following program?

```
class Manager25
{
    public static void main(String[] args)
    {
        A a1 = new C();
        System.out.println(11);
        B b1 = (B)a1;
        System.out.println(22);
        C c1 = (C)a1;
        System.out.println(33);
        D d1 = (D)a1;
        System.out.println(44);
    }
}
```

17. Assume

We have class A, class B, class C, class D

class A extends Object

class B extends A

class C extends B

class D extends C

Write the output for the following program?

```
class Manager27
{
    public static void main(String[] args)
    {
        A a1 = new B();
        System.out.println(a1 instanceof A);
        System.out.println(a1 instanceof B);
        System.out.println(a1 instanceof C);
        System.out.println(a1 instanceof D);
    }
}
```

18. Assume

We have class A, class B, class C, class D

class A extends Object

class B extends A

class C extends B

class D extends C

Write the output for the following program?

```
class Manager28
```

```
{  
    public static void main(String[] args)  
    {  
        A a1 = new D();  
        System.out.println(a1 instanceof Object);  
        System.out.println(a1 instanceof A);  
        System.out.println(a1 instanceof B);  
        System.out.println(a1 instanceof C);  
        System.out.println(a1 instanceof D);  
    }  
}
```

19.

Assume

We have class A, class B, class C, class D

class A extends Object

class B extends A

class C extends B

class D extends C

Write the output for the following program?

```
class Manager29  
{  
    public static void main(String[] args)  
    {  
        A a1 = new C();  
        System.out.println(a1 instanceof A);  
    }  
}
```

```
        System.out.println(a1 instanceof B);
        System.out.println(a1 instanceof C);
        System.out.println(a1 instanceof D);
        System.out.println(a1 instanceof String);
    }
}
20.
```

Assume

We have class A, class B, class C, class D

class A extends Object

class B extends A

class C extends B

class D extends C

Write the output for the following program?

```
class Manager30
{
    public static void main(String[] args)
    {
        A a1 = new C();
        if(a1 instanceof A)
        {
            System.out.println("to A");
            A a2 = (A)a1;
            if(a1 instanceof B)
            {
```

```
System.out.println("to B");
    B b2 = (B)a1;
}
if(a1 instanceof C)
{
    System.out.println("to C");
    C c2 = (C)a1;
}
if(a1 instanceof D)
{
    System.out.println("to D");
    D d2 = (D)a1;
}
}
}
}
```

21. What is type casting?
22. What are the types of type casting?
23. What are the different types of derived typecasting?
24. What are the different types of primitive casting?
25. What is null?