QUESTION BANK 5

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5

OO CONCEPTS

CERTIFICATION OBJECTIVES

5.1 Develop code that implements tight encapsulation, loose coupling, and high cohesion in classes, and describe the benefits.

5.2 Given a scenario, develop code that demonstrates the use of polymorphism. Further, determine when casting will be necessary and recognize compiler vs. runtime errors related to object reference casting.

5.3 Explain the effect of modifiers on inheritance with respect to constructors, instance or static variables, and instance or static methods.

5.4 Given a scenario, develop code that declares and/or invokes overridden or overloaded methods and code that declares and/or invokes superclass, or overloaded constructors.

5.5 Develop code that implements "is-a" and/or "has-a" relationships.

QUESTION 5.1

Q 1: Sam is working in ABC Software Pvt. Ltd. He writes the following class in a program in order to fulfill the current requirement of the client:

```
class MyRadius {
        public int radius1, radius2;
        public int sum = 200;
        public void setRadius(int r) {
                if(r>199) throw new IllegalArgumentException();
                radius1 = r;
                radius2 = sum - radius1;
        }
}
```

After some time, the requirement changed, and Sam wants that radius2 should always be (300 - radius1) instead of (200 - radius1). Now, he has to achieve the goal without breaking the existing code. Which of the following goals are correct?

A. Initialize sum = 300.
B. Change access modifier of sum to private and initialize sum = 300.
C. Initialize sum = 300 and change all fields (radius1, radius2, and sum) to private.
D. His goal cannot be achieved.

QUESTION 5.2

Q 2: Jerry is working as a Java Developer in XYZ Solution System. He writes the following classes in a program:

```
class SuperClass {
        public static void method1() {  System.out.println("Static method in super
         class"); }
}
class SubClass extends SuperClass
{
        public static void method1() {  System.out.println("Static method in sub
         class"); // line 1  }
        public  void method1() {  System.out.println("Non-static method in subclass");
         // line 2 }
}
```

Which of the following options are true?

A. If line 1 and line 2 are commented, then class SubClass will compile.
B. If line 1 is commented, then class SubClass will compile.
C. If line 2 is commented, then class SubClass will compile.
D. None of the above options are true.

QUESTION 5.3

Q 3. Mr. John is working in XYZ Company Ltd. He tries to compile and run the following program:

```
public class ObjectTest {
        public static void main(String args[ ] ) {
                X obj1 = new Z( );
                Y obj2 = (Y) obj1;
                System.out.println(obj1.method1( ) );
                System.out.println(obj2.a );
        }
}
class X { int a = 100;  int method1( ) { return a; } }
```

```
class Y extends X { int a = 200;  int method1( ) { return a; } }
class Z extends Y { int a = 300;  int method1( ) { return a; } }
```

What will happen when he compiles and runs the preceding program?

A. The program displays "300" followed by "300" as an output.
B. The program displays "200" followed by "200" as an output.
C. The Class cast exception is generated at runtime.
D. The program displays "300" followed by "200" as an output.

.

QUESTION 5.4

Q 4: Mr. David is working in XYZ Software Pvt. Ltd. He tries to compile and run the following program:

```
package com.kogent;
class X1 {
        void display() {
                System.out.print("display() method of X1 class");
        }
}
class X2 extends X1 {
        void display() {
                System.out.print("display() method of X2 class");
        }
}
class X3 extends X2 {
        void display() {
                System.out.print("display() method of X3 class");
        }
        public static void main(String arg[]) {
                X1 x1 = new X1();
                X2 x2 = new X2();
                X3 x3 = new X3();
                X1 obj;
                obj = x1;
                obj.display();
                obj = x2;
                obj.display();
                obj = x3;
                obj.display();
        }
}
```

What will happen when he compiles and runs the preceding program? Choose more than one options, if correct.

A. The program displays "display() method of X1 class" as an output.
B. The program displays "display() method of X3 class" as an output.
C. The program displays "display() method of X2 class" as an output.
D. The program displays "display() method of X1 class" followed by "display() method of X2 class" followed by "display() method of X3 class" as an output.

;

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QUESTION 5.5

Q 5: Mohan works as a programmer for Z Company. He tries to compile and run the following program:

```
package com.kogent;
public class MyTest {
        boolean b1 = true;
        static boolean b2 = true;
        public static void main(String args[]) {
                boolean b1 = false;
                boolean b2 = false;
                System.out.println(this.b2);
        }
}
```

What will happen when he compiles and runs the preceding program?

A. The program generates a compile-time error.
B. The program generates a runtime exception.
C. The program displays "true" followed by "true" as an output.
D. The program displays "false "followed by "false" as an output.

.

QUESTION 5.6

Q 6: Harry works as a software developer for AAA Company. He tries to compile the following program:

```
class TestByte1 {
        byte getStatusValue(Object obj) throws NullPointerException {
                if(obj != null )
                        return 128;
                else
                        return -1;
                }
}
class TestByte2 extends TestByte1 {
        byte getStatusValue(Object obj) throws NullPointerException{
                if(obj != null )
                        return 128;
                else
                        return -1;
        }
}
```

What will happen when he tries to compile the preceding program?

A. The overriding getStatusValue() method throws IOException exception.
B. The overriding getStatusValue() method throws Throwable exception
C. The overriding getStatusValue() method throws any exception.
runtime exception
D. Program TestByte1 generates a compile-time error.

.

QUESTION 5.7

Q 7: John works as a software developer in AAA Software Company. He tries to compile and run the following program:

```
package com.kogent;
class Test1 {
        Test1() {
                System.out.println("Default constructor in Test1 class");
```

```
        }
        Test1(float f) {
                System.out.println("Parameterized constructor in Test1 class");
        }
}
public class Test2 extends Test1 {
        public static void main(String args[]) {
                new Test2();
        }
}
```

What will happen when he compiles and runs the preceding program?

A. The program generates a runtime exception.
B. The program generates a compile-time error.
C. The program runs successfully and displays output as "Default constructor in Test1 class".
D. The program runs successfully and displays output as "Parameterized constructor in Test1 class".

QUESTION 5.8

Q 8: Ramesh works as a Programmer in AAA Company. He tries to compile and run the following program:

```
package com.kogent;
class Fruit {
        public void eat() throws Exception {
                System.out.println("Eating fruit");
        }
}
public class Apple extends Fruit {
        public void eat(){
                System.out.println("Eating apple");
        }
        public static void main(String[] args) {
                Fruit f = new Apple();
                f.eat();
        }
}
```

What will happen when he compiles and runs the preceding program?

A. The program displays "Eating apple" as an output.
B. The program displays "Eating fruit" as an output.
C. Program generates a compile-time error.
D. Program generates a runtime exception.

QUESTION 5.9

Q 9: Akbar works as a software developer in AAA Company. He tries to compile and run the following program:

```
class Base1 {
        Base1() {  print();   }
        void print() { System.out.println("Base1"); }
}
class Base2 extends Base1 {
        int number =   Math.round(7.4f);
        public static void main(String args[]) {
                Base1 base = new Base2();
                base.print();
        }
        void print() { System.out.println(number); } //1
```

```
}
```

What will happen when he compiles and runs the preceding program?

A. Program displays "Base1" followed by "7" as an output.
B. Program displays "Base1" followed by "Base1" as an output.
C. Program displays "7" followed by "7" as an output.
D. Program displays "0" followed by "7" as an output.

QUESTION 5.10

Q 10: Look at the following code snippet of a program:

```
public class Test {
        public class X {
        }
        public static class Y {
        }
        public void instantiatedTest() {
                new Test().new X();       //1
                new Test.Y();             //2
                new X();                            //3
                new Test.X();             //4
        }
}
```

Which of the following instantiated objects defined in the instantiatedTest() method are valid instantiations?

A. Only statement at //1 valid.
B. Only statement at //3 is valid.
C. Only statements at //1 and //3 are valid.
D. Only statements at //2 and //3 are valid.
E. All statements at //1, //2, //3, and //4 are valid.

:

QUESTION 5.11

Q 11: Aryan works as a Software Developer in XYZ Software Company Ltd. He attempts to compile and run the following program.

```
public class SCJPQ25 {
        public long doMethod(int a){  return a*2; } //1
        public int doMethod(int a){  return a; } //2
        public static void main(String[] args) {
                long i = 0;
                i = new SCJPQ25().doMethod(5);
                System.out.println( i );
        }
}
```

What will happen when he compiles and runs the preceding program?

A. Program generates compile-time error.
B. Program generates runtime exception.
C. Program displays "10" as an output.

D. Program displays "5" as an output.

QUESTION 5.12

Q 12: Ramesh works as a programmer in XYZ Solution. He attempts to compile the following program:

```
class Base {
        public static void doMethod() {  System.out.println("static method of Base"); }
}
class Sub extends Base {
        public static void doMethod() {  System.out.println("static method of Sub
        class"); } //1
        public  void doMethod() {  System.out.println("non-static method of Sub
        class"); } //2
}
public class MainTest {
        Sub objSub = new Sub();
}
```

The preceding program leads to compilation error. Which of the following tasks need to be performed to avoid the compile time error?

A. Program compiles successfully if statement at //1 is commented and //2 is not commented.
B. Program compiles successfully if statement at //1 is not commented and at //2 is commented.
C. Program compiles successfully if statement at //1 and //2 are commented.
D. Program compiles successfully if both statements (//1 and //2) are commented and then generates a runtime exception.
E. Program compiles successfully if no lines are commented.

QUESTION 5.13

Q 13: Peter works as a Programmer in ABC Solution Inc. He attempts to compile and run the following program:

```
public class SCJPQ14 {
        static int x = 100;
        static int y = 200;
        static {
                x += 1;
                y += 1;
        }
        public static void main(String args[]) {
                x += 5;
                y += 10;
                System.out.println(x + y);
        }
        static {
                x += 100;
                y += 200;
        }
}
```

What will happen when he compiles and runs the preceding program?

A. Program displays "317" as an output.
B. Program displays "615" as an output.
C. Program displays "617" as an output.
D. Program displays "315" as an output.

QUESTION 5.14

Q 14: Maria works as a Programmer in XYZ Software Solution. She attempts to compile and run the following program:

```
class Base {
        public void doMethod1() {
                System.out.println("non static doMethod1 in Base class");
        }
        public static void doMethod2() {
                System.out.println("static doMethod2 in Base class");
        }
}
class Sub extends Base {
        public void doMethod1() {
                System.out.println("non static doMethod1 in Sub class");
        }
        public static void doMethod2() {
                System.out.println("static doMethod2 in Sub class");
        }
}
class SCJPQ05 {
        public static void main(String[] args) {
                Base obj1 = new Base(); //1
                obj1.doMethod1();
                obj1.doMethod2();
                obj1 = new Sub();
                obj1.doMethod1(); //2
                obj1.doMethod2();
        }
}
```

What will happen when she compiles and runs the preceding program?

A. non static doMethod1 in Base class
static doMethod2 in Base class
non static doMethod1 in Sub class
static doMethod2 in Sub class

B. non static doMethod1 in Base class
static doMethod2 in Base class
lass
static doMethod2 in Base class

C. non static doMethod1 in Base class
static doMethod2 in Base class
non static doMethod1 in Base class
static doMethod2 in Sub class

D. Program generates compile-time error.

.

QUESTION 5.15

Q 15: John works as a software developer in XYZ Software Solution. He attempts to compile and run the following program:

```
class SuperClass {
        private int i;
```

```
        public void method1() {  }
        public void method2() { }
}
class SubClass extends SuperClass {
        public int j;
        public void method2() { }
}
public class Test {
        public static void main(String args[]) {
                SuperClass obj1 = new SuperClass(); //1
                SubClass obj2 = new SubClass();  //2
                obj2.method1(); //3
                obj1.j=10;      //4
                obj1.method2(); //5
                obj2.i=50;      //6

         }
 }
```

Which of the following statements are invalid in the main() method?

A. Statements at //4 and //6 are invalid statements.
B. Statements at //1, //4 and //6 are invalid statements.
C. Statements at //1, //2, //5, and //6 are invalid.
D. All statements are invalid.

.

QUESTION 5.16

Q 16: Peter works as a Programmer in ABC Solution Inc. He attempts to compile and run the following program:

```
public class TestClass extends SuperClass {
        public static void main(String[] args) {
                TestClass object1 = new TestClass();
                object1.printMsg();
        }
        public void printMsg() {
                // 1

        }
}
class SuperClass {
        ABC objABC = new ABC();
}
class ABC {
        String str = "Java World!";
}
```

Which of the following statements are used at //1 to print the message Java World!?

A. System.out.println(this.objABC.str);
B. System.out.println(objABC.str);
C. System.out.println(str);
D. System.out.println(ABC.str);

).

QUESTION 5.17

Q 17: Imagine that you are a Software Developer and attempt to compile and run the following program:

```
public class TestClass {
        public static void main(String[] args) {
```

```
                Sub objSub = new Sub(" Inc");
        }
}
class Base {
        Base() { //2
                this("Kogent ", "Solution");
        }
        Base(String s, String t) { //3
                this(s + t);
        }
        Base(String s) {  //4
                System.out.print(s);
        }
}
class Sub extends Base {
        Sub(String s) {  //1
                System.out.print(s);
        }
        Sub(String s, String t) {
                this(t + s + "1");
        }
        Sub() {
                super("2");
        };
}
```

What will happen when you compile and run the preceding program?

A. It displays "Inc" as an output.
B. It displays "Inc Inc" as an output.
C. It displays "Kogent Solution Inc" as an output.
D. It displays "Inc 2 Kogent Solution" as an output.

QUESTION 5.18

Q 18: Imagine that you are a software developer and attempt to compile and run the following program:

```
class SuperClass1 {
        final int finalVal = 100;
}
class SubClass1 extends SuperClass1 {
        int finalVal = 150;
        public static void main(String args[]){
                SubClass1   objSubClass = new SubClass1();
                objSubClass.finalVal = 200;
                System.out.println(objSubClass.finalVal); //1
                System.out.println(  (  (SuperClass1) objSubClass  ).finalVal );  //2
        }
}
```

What will happen when you compile and run the preceding program?

A. The program displays "200" followed by "100" as an output.
B. The program displays "200" followed by "200" as an output.
C. The program displays "100" followed by "200" as an output.
D. The program display compile-time error.

.

QUESTION 5.19

Q 19: Imagine that you are a software developer and attempt to compile and run the following program:

```
class X {
```

```
        String str1 = "X.str1";
        String str2 = "X.str2";
}
class Y extends X {
        String str1 = "Y.str1";
        public static void main(String args[]) {
                Y y = new Y();
                X x = (X)y;
                System.out.println(y.str1 + " " + y.str2 + " " + x.str1 + " " +
                x.str2);
        }
}
```

What will happen when you compile and run the preceding program?

A. The program displays "Y.str1 X.str2 X.str1 X.str2" as an output.
B. The program displays "X.str1 X.str2 X.str1 X.str2" as an output.
C. The program displays "Y.str1 X.str2 Y.str1 X.str2" as an output.
D. The program generates compile-time error.

QUESTION 5.20

Q 20: Imagine that you are a software developer and attempt to compile and run the following program:

```
class MyClass1 {
        void m1(MyClass1 objA) { //1
                System.out.print("MyClass1 ");
        }
}
class MyClass2 extends MyClass1 {
        void m1(MyClass2 objB) {
                System.out.print("MyClass2 ");
        }
}
class MyClass3 extends MyClass2 {
        void m1(MyClass3 objC) {
                System.out.print("MyClass3");
        }
}
class MyClass4 extends MyClass3 {
        void m1(MyClass4 objD) {
                System.out.print("MyClass4");
        }
        public static void main(String[] args) {
                MyClass1 objMyClass1 = new MyClass1();
                MyClass2 objMyClass2 = new MyClass2();
                MyClass3 objMyClass3 = new MyClass3();
                MyClass4 objMyClass4 = new MyClass4();
                objMyClass4.m1(objMyClass1); //2
                objMyClass4.m1(objMyClass2);
                objMyClass4.m1(objMyClass3);
        }
}
```

What will happen when you compile and run the preceding program?

A. Program displays "MyClass1" followed by "MyClass1" followed by "MyClass1" as an output.
B. Program displays "MyClass1" followed by "MyClass2" followed by "MyClass3" as an output.
C. Program displays "MyClass3" followed by "MyClass3" followed by "MyClass3" as an output.
D. Program displays "MyClass1" followed by "MyClass2" followed by "MyClass3" followed by "MyClass4" as an output.
E. Program generates compile-time error.

QUESTION 5.21

Q 21: Harry works as a software engineer in XYZ Software Solution. He attempts to compile and run the following program:

```
class A {
        void doMethod1() {
                System.out.print("A.doMethod1() ");
        }
         void doMethod2() {
                System.out.print("A.doMethod2() ");
        }
}
class B extends A {
        void doMethod1() {
                System.out.print("B.doMethod1() ");
        }
        static void doMethod2() {
                System.out.print("B.doMethod2() ");
        }
        public static void main(String args[]) {
                A a = new B();
                a.doMethod1();
                a.doMethod2();
        }
}
```

What will happen when he compiles and runs the preceding program?

A. Program displays "B.doMethod1()" followed by "B.doMethod2()" as an output.
B. Program displays "A.doMethod1()" followed by "B.doMethod2()" as an output.
C. Program displays "B.doMethod1()" followed by "A.doMethod2()" as an output.
D. Program generates compile-time error.
E. Program generates runtime exception.

QUESTION 5.22

Q 22: Maria works as a software engineer in ABC Software Solution. She attempts to compile and run the following program:

```
class A {
        public A(String s) {
                System.out.print("A ");
        }
}
class B extends A {
        public B(String s) {
                System.out.print("B ");
        }
        public static void main(String[] args) {
                B b1 = new B("C "); //1
                System.out.println(" ");
        }
}
```

What will happen when she compiles and runs the preceding program?

A. Program displays "A" followed by "B" as an output.
B. Program displays "A" followed by "B" followed by "C" as an output.
C. Program displays "C" followed by "B" as an output.
D. program generates compile-time error
E. Program generates runtime exception.

QUESTION 5.23

Q 23: Imagine that you are a software engineer and attempt to compile and run the following program:

```
class BaseClass {
        void method1() {
                System.out.print("BaseClass.method1 ");
        }
        static void method2() {
                System.out.print("BaseClass.method2");
        }
}
class Sub extends BaseClass {
        void method1() {
                System.out.print("Sub.method1 ");
        }
        static void method2() {
                System.out.print("Sub.method2");
        }
        public static void main(String args[]) {
                BaseClass x = new Sub();
                x.method1();
                x.method2();
        }
}
```

What will happen when you compile and run the preceding program?

A. Program displays "Sub.method1" followed by "Sub.method2" as an output.
B. Program displays "Sub.method1" followed by "BaseClass.method2" as an output.
C. Program displays "Sub.method1" followed by "BaseClass.method1" as an output.
D. program generates compile-time error
E. Program generates runtime exception.

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QUESTION 5.24

Q 24: Imagine that you are a software engineer and attempt to compile and run the following program:

```
class Fruit {
        static String name = "Apple";
        static Fruit getFruit() {
                System.out.println("Getting fruit ");
                return null;
        }
        public static void main(String[ ] args) {
                System.out.println( getFruit().name );
        }
}
```

What will happen when you compile and run the preceding program?

A. Program `throw` a NullpointerException.
B. Program displays "Apple" as an output.
C. Program displays "Getting fruit" followed by "Apple" as an output.
D. Program generates compile-time error.

.

QUESTION 5.25

Q 25: Imagine that you are a software engineer and attempt to compile and run the following program:

```
class Triangle {
        public int side = 3;
        public String getDegree() {  return "180 degree : Triangle";  }
}
class Rectangle extends Triangle {
        public int side = 4;
        public String getDegree(){  return  "360 degree : Rectangle";  }
        public static void main(String[] args) {
                Triangle tr = new Rectangle();
                System.out.println( tr.side+", side  "+tr.getDegree() );
        }
}
```

What will happen when you compile and run the preceding program?

A. Program displays "4" followed by ", side 360 degree : Rectangle" as an output.
B. Program displays "3" followed by ", side 360 degree : Rectangle" as an output.
C. Program displays "3"followed by ", side 180 degree : Triangle" as an output.
D. program generates runtime exception.

QUESTION 5.26

Q 26: Imagine that you are a software engineer and attempt to compile and run the following program:

```
class SuperClass{
        SuperClass1() {
                System.out.println(" Super class constructor ");
        }
}
public class SubClass extends SuperClass {
        public static void main(String[] args) {
                SubClass sb = new SubClass();
                super();  //1
        }
        SubClass() {
                System.out.println("Sub class constructor");
        }
}
```

What will happen when you compile and run the preceding program?

A. Program generates compile-time error.
B. Program generates runtime exception.
C. Program displays "Sub class constructor" followed by "Super class constructor as an output".
D. Program displays "Super class constructor" followed by "Sub class constructor" as an output.

QUESTION 5.27

Q 27: Maria works as a software engineer in ABC Software Solution. She attempts to compile and run the following program:

```
class A {
        static void doSomething1() {
                System.out.print("A.doSomething1 ");
        }
        void doSomething2() {
                System.out.print("A.doSomething2 ");
        }
        void doSomething3() {
                doSomething1();
                doSomething2();
        }
}
class B extends A {
        static void doSomething1() {
                System.out.print("B.doSomething1 ");
        }
        void doSomething2() {
                System.out.print("B.doSomething2 ");
        }
        public static void main(String[] args) {
                new B().doSomething3(); //1
        }
}
```

What will happen when she compiles and runs the preceding program?

A. Program displays "A.doSomething1" followed by "B.doSomething2" as an output.
B. Program displays "A.doSomething1" followed by "A.doSomething2" as an output.
C. Program displays "B.doSomething1" followed by "B.doSomething2" as an output.
D. program generates "B.doSomething1" followed by "A.doSomething2" as an output.
E. Program generates runtime exception.

QUESTION 5.28

Q 28: Imagine that you are a software engineer. You attempts to compile and run the following program:

```
class A1 {
        A1() throws Exception {
        }
}
class B1 extends A1 {
        B1()  {
        }
        public static void main(String args[]) {
                System.out.println("Inside main() method");
        }
}
```

What will happen when you compile and run the preceding program?

A. Program displays "Inside main() method" as an output.
B. Program generates runtime exception.
C. Program generates compile-time error.

D. Program compiles successfully but does not display anything during runtime.

QUESTION 5.29

Q 29: Imagine that you are a Java developer. You try to compile and run the following program:

```
class Base {
        int a;
        private int b;
        static int c=10;
        Base() {
                a=3;
                b=5;
                c=20;
        }
        public void methodA() {
                System.out.print("Base class ");
        }
}
class SubClass extends Base {
        int a;
        private int b;
        static int c=40;
        SubClass() {
                a=10;
                b=20;
                c=30;
        }
        public void methodA() {
                System.out.print("Sub class ");
        }
}
class SCJPQ61 {
        public static void main(String arg[]) {
                Base obj1 = new Base();
                Base obj2 = new SubClass();
                obj1.methodA();
                obj2.methodA();
                System.out.print(obj1.c);
                System.out.print(" "+obj2.c);
        }
}
```

What will happen when you compile and run the preceding program?

A. It displays "Base class" followed by "Base class" followed by "20" followed by "20" as an output.

B. It displays "Sub class" followed by "Sub class" followed by "10" followed by "40" as an output.

C. It generates compile-time error.

D. It displays "Base class" followed by "Sub class" followed by "20" followed by "20" as an output.

).

QUESTION 5.30

Q 30: Imagine that you are a software engineer and attempt to compile and run the following program:

```
class SCJPQ65 {
        public static void main(String args[]) {
                Y y = new Z();
                System.out.println(y.large(100, 200));
        }
}
class X {
        int large(int a, int b) {
                if (a > b)
                        return a;
                else
                        return b;
        }
}
class Y extends X {
        int large(int a, int b) {
                return 2 * super.large(a, b);
        }
}
class Z extends Y {
        int large(int a, int b) {          //1
                return super.large(2 * a, 2 * b);
        }
}
```

What will happen when you compile and run the preceding program?

A. Program fails to compile.
B. Program generates runtime exception.
C. Program displays "400" as an output.
D. Program displays "200" as an output.
E. Program displays "800" as an output.

QUESTION 5.31

Q 31: Radha is working in XYZ Company Inc. She tries to compile and run the following program:

```
package com.kogent;
final class Base {
        public void testMethod() {
                System.out.println("Final class");
        }
}
public class Sub extends Base {
        public void testMethod() {
                System.out.println("Sub class extends the Final Base class");
        }
        public static void main(String arg[]) {
                Base obj = new Base();
                obj.testMethod();
        }
}
```

What will happen when she tries to compile and run the preceding program?

A. The program generates compile-time error because a final class cannot be inherited.
B. The program display output as "Final class".

C. The program generates runtime exception.
D. The program generates compile-time error because a final class cannot be instantiated.

QUESTION 5.32

Q 32: Imagine that you are a software engineer and attempt to compile and run the following program:

```
package com.kogent;
class Test {
        int a=50;
         int b = 10;
        public static void main(String args[]) {
                a+=b--;
                System.out.println(a);
        }
}
```

What will happen when you compile and run the preceding program?

A. The program display "60" as an output.
B. The program display "50" as an output.
C. The program generates runtime exception.
D. The program generates compile-time error.

QUESTION 5.33

Q 33: Sheila works as programmer for XYZ Company. She tries to compile and run the following program:

```
package com.kogent;
public class test {
        static int i;
        public static void main(String arg) {
                System.out.println(i);
        }
}
```

What will happen when Sheila compiles and runs the preceding program?

A. The program displays "0" as an output.
B. The program generates compile-time exception.
C. The program generates runtime exception.
D. The program displays "1" as an output.

.