

Advanced Java Class Design - 0

Given code:

```
class A {  
    public void someMethod(final String name) {  
        /*INSERT*/ {  
            void print() {  
                System.out.println("Hello " + name);  
            }  
        }  
        new B().print();  
    }  
}  
  
public class Test {  
    public static void main(String[] args) {  
        new A().someMethod("World!");  
    }  
}
```

Which of the following options can replace `/*INSERT*/` such that on executing Test class, “Hello World!” is displayed in the output?

- A - abstract class B
- B - class B
- C - public class B
- D - final class B
- E - protected class B
- F - private class B

Advanced Java Class Design - 1

What is the purpose of below lambda expression?

```
(x, y) -> x + y;
```

A - It accepts two String arguments, concatenates them and returns the String instance

B - It accepts two int arguments, adds them and returns the int value

C - It accepts a String and an int arguments, concatenates them and returns the String instance

D - Not possible to define the purpose

Advanced Java Class Design - 2

What will be the result of compiling and executing Test class?

```
@FunctionalInterface
interface I5 {
    void print();
}

public class Test {
    int i = 100;

    I5 obj1 = new I5() {
        int i = 200;
        public void print() {
            System.out.println(this.i);
        }
    };

    I5 obj2 = () -> {
        int i = 300;
        System.out.println(this.i);
    };

    public static void main(String[] args) {
        Test ques = new Test();
        ques.obj1.print();
        ques.obj2.print();
    }
}
```

A -

100
100

B -

200
100

C -

200
300

D -

100
300

Advanced Java Class Design - 3

Below is the code of Test.java file:

```
class Outer {  
    abstract static class Animal { //Line 2  
        abstract void eat();  
    }  
  
    static class Dog extends Animal { //Line 6  
        void eat() { //Line 7  
            System.out.println("Dog eats biscuits");  
        }  
    }  
}  
  
public class Test {  
    public static void main(String[] args) {  
        Outer.Animal animal = new Outer.Dog(); //Line 15  
        animal.eat();  
    }  
}
```

What will be the result of compiling and executing Test class?

- A - Compilation error at Line 2
- B - Compilation error at Line 6
- C - Compilation error at Line 7
- D - Dog eats biscuits
- E - Compilation error at Line 15

Advanced Java Class Design - 4

Below is the code of Test.java file:

```
interface Flyable {  
    void fly();  
}  
  
public class Test {  
    public static void main(String[] args) {  
        /*INSERT*/  
    }  
}
```

Which of the following options can replace /*INSERT*/ such that there are no compilation errors?

A -

```
Flyable flyable = new Flyable() {  
    public void fly() {  
        System.out.println("Flying high");  
    }  
};
```

B -

```
Flyable flyable = new Flyable() {  
    public void fly() {  
        System.out.println("Flying high");  
    }  
}
```

C - Flyable flyable = new Flyable();

D - Flyable flyable = new Flyable{};

Advanced Java Class Design - 5

Below is the code to Test.java file:

```
enum ShapeType {  
    CIRCLE, SQUARE, RECTANGLE;  
}  
  
abstract class Shape {  
    private ShapeType type = ShapeType.SQUARE; //default ShapeType  
  
    Shape(ShapeType type) {  
        this.type = type;  
    }  
  
    public ShapeType getType() {  
        return type;  
    }  
  
    abstract void draw();  
}  
  
public class Test {  
    public static void main(String[] args) {  
        Shape shape = new Shape() {  
            @Override  
            void draw() {  
                System.out.println("Drawing a " + getType());  
            }  
        };  
        shape.draw();  
    }  
}
```

What will be the result of compiling and executing Test class?

- A - Drawing a CIRCLE
- B - Compilation error
- C - Drawing a SQUARE
- D - Drawing a RECTANGLE

Advanced Java Class Design - 6

Given code of Test.java file:

```
interface Printer1 {  
    default void print() {  
        System.out.println("Printer1");  
    }  
}  
  
class Printer2 {  
    public void print() {  
        System.out.println("Printer2");  
    }  
}  
  
class Printer extends Printer2 implements Printer1 {  
  
}  
  
public class Test {  
    public static void main(String[] args) {  
        Printer printer = new Printer();  
        printer.print();  
    }  
}
```

What will be the result of compiling and executing Test class?

- A - Compilation error for Printer
- B - Compilation error for Printer2
- C - Compilation error for Printer1
- D - Printer1
- E - Printer2

Advanced Java Class Design - 7

Given code:

```
class Outer {  
    private String name = "James Gosling";  
    //Insert inner class definition here  
}  
  
public class Test {  
    public static void main(String [] args) {  
        new Outer().new Inner().printName();  
    }  
}
```

Which of the following Inner class definition inserted in the Outer class, will print 'James Gosling' in the output on executing Test class?

A -

```
inner class Inner {  
    public void printName() {  
        System.out.println(name);  
    }  
}
```

B -

```
class Inner {  
    public void printName() {  
        System.out.println(name);  
    }  
}
```

C -

```
class Inner {  
    public void printName() {  
        System.out.println(this.name);  
    }  
}
```

D -

```
abstract class Inner {  
    public void printName() {  
        System.out.println(name);  
    }  
}
```


Advanced Java Class Design - 8

Consider the code of Test.java file:

```
enum Flags {  
    TRUE, FALSE;  
  
    Flags() {  
        System.out.println("HELLO");  
    }  
}  
  
public class Test {  
    public static void main(String[] args) {  
        Flags flags = new Flags();  
    }  
}
```

What will be the result of compiling and executing Test class?

- A - None of the other options
- B - HELLO is printed twice
- C - Exception is thrown at runtime
- D - HELLO is printed once

Advanced Java Class Design - 9

What will be the result of compiling and executing class M?

```
class M {  
    private int num1 = 100;  
    class N {  
        private int num2 = 200;  
    }  
  
    public static void main(String[] args) {  
        M outer = new M();  
        M.N inner = outer.new N();  
        System.out.println(outer.num1 + inner.num2);  
    }  
}
```

A - 200

B - 300

C - Compilation error

D - 100

Advanced Java Class Design - 10

Which of the following statement is correct about java enums?

- A - An enum can extend another class
- B - All java enums implicitly extend from `java.util.Enum` class
- C - An enum can extend another enum
- D - An enum can implement interfaces

Advanced Java Class Design - 11

What will be the result of compiling and executing Test class?

```
class Outer {  
    public void print(int x) {  
        class Inner {  
            public void getX() {  
                System.out.println(++x);  
            }  
        }  
        Inner inner = new Inner();  
        inner.getX();  
    }  
}  
  
public class Test {  
    public static void main(String[] args) {  
        new Outer().print(100);  
    }  
}
```

- A - 100
- B - Runtime exception
- C - 101
- D - Compilation error

Advanced Java Class Design - 12

Given code of Test.java file:

```
interface Printer1 {  
    default void print() {  
        System.out.println("Printer1");  
    }  
}  
  
interface Printer2 {  
    default void print() {  
        System.out.println("Printer2");  
    }  
}  
  
class Printer implements Printer1, Printer2 {  
  
}  
  
public class Test {  
    public static void main(String[] args) {  
        Printer printer = new Printer();  
        printer.print();  
    }  
}
```

What will be the result of compiling and executing Test class?

- A - Printer1
- B - Printer2
- C - Compilation error for Printer1
- D - Compilation error for Printer
- E - Compilation error for Printer2

Advanced Java Class Design - 13

For the given code:

```
interface Operator {  
    int operate(int i, int j);  
}  
  
public class Test {  
    public static void main(String[] args) {  
        Operator opr = new Operator() {  
            public int operate(int i, int j) {  
                return i + j;  
            }  
        };  
        System.out.println(opr.operate(10, 20));  
    }  
}
```

Which of the following options successfully replace anonymous inner class code with lambda expression code?

- A - Operator opr = (x, y) -> x + y;
- B - Operator opr = (int x, int y) -> { return x + y; };
- C - Operator opr = (x, y) -> { return x + y; };
- D - Operator opr = (x, y) -> return x + y;
- E - Operator opr = x, y -> x + y;

Advanced Java Class Design - 14

Below is the code of Test.java file:

```
public class Test {  
    public static void main(String [] args) {  
        System.out.println(new Object() {  
            public String toString() {  
                return "Anonymous";  
            }  
        });  
    }  
}
```

What will be the result of compiling and executing Test class?

- A - Anonymous
- B - Compilation error
- C - Some text containing @ symbol
- D - Runtime exception

Advanced Java Class Design - 15

Given code:

```
abstract class Greetings {  
    abstract void greet();  
}  
  
public class Test {  
    public static void main(String[] args) {  
        Greetings obj = new Greetings() {  
            @Override  
            public void greet() {  
                System.out.println("Hello");  
            }  
        };  
        obj.greet();  
    }  
}
```

What will be the result of compiling and executing Test class?

- A - Hello
- B - Compilation error
- C - NullPointerException
- D - Nothing is printed on to the console

Advanced Java Class Design - 16

What will be the result of compiling and executing Test class?

```
public class Test {  
    enum TrafficLight {  
        private String message;  
        GREEN("go"), AMBER("slow"), RED("stop");  
  
        TrafficLight(String message) {  
            this.message = message;  
        }  
  
        public String getMessage() {  
            return message;  
        }  
    }  
  
    public static void main(String[] args) {  
        System.out.println(TrafficLight.AMBER.getMessage().toUpperCase());  
    }  
}
```

- A - SLOW
- B - slow
- C - Compilation error
- D - NullPointerException is thrown at runtime

Advanced Java Class Design - 17

What will be the result of compiling and executing Test class?

```
interface I9 {  
    void print();  
}  
  
public class Test {  
    public static void main(String[] args) {  
        int i = 400;  
        I9 obj = () -> System.out.println(i);  
        obj.print();  
        System.out.println(++i);  
    }  
}
```

A - Compilation error

B -

400

401

C - Exception is thrown at runtime

D -

400

400

Advanced Java Class Design - 18

Consider the code of Test.java file:

```
enum Flags {  
    TRUE, FALSE;  
  
    Flags() {  
        System.out.println("HELLO");  
    }  
}  
  
public class Test {  
    public static void main(String[] args) {  
        Flags flags = Flags.TRUE;  
    }  
}
```

What will be the result of compiling and executing Test class?

- A - HELLO is printed twice
- B - HELLO is printed once
- C - Exception is thrown at runtime
- D - None of the other options

Advanced Java Class Design - 19

What will be the result of compiling and executing class Test?

```
class X {  
    class Y {  
        private void m() {  
            System.out.println("INNER");  
        }  
    }  
  
    public void invokeInner() {  
        Y obj = new Y(); //Line 9  
        obj.m(); //Line 10  
    }  
}  
  
public class Test {  
    public static void main(String[] args) {  
        new X().invokeInner();  
    }  
}
```

A - Compilation error at Line 10 as private method m() cannot be invoked outside the body of inner class (Y)

B - Exception is thrown at runtime

C - INNER

D - Compilation error at Line 9 as instance of outer class (X) is needed to create the instance of inner class (Y)

Advanced Java Class Design - 20

Below is the code of Test.java file:

```
class Outer {
    static class Inner {
        static void greetings(String s) {
            System.out.println(s);
        }
    }
}

public class Test {
    public static void main(String[] args) {
        /*INSERT*/
    }
}
```

Which of the following 2 options can replace `/*INSERT*/` such that there on executing class Test, output is: HELLO!?

A - `Inner.greetings("HELLO!");`

B - `Outer.Inner.greetings("HELLO!");`

C -

```
Outer.Inner inner2 = new Outer.Inner();
inner2.greetings("HELLO! ");
```

D -

```
Outer.Inner inner1 = new Outer().new Inner();
inner1.greetings( "HELLO! ");
```

Advanced Java Class Design - 21

Given code:

```
public class Test {  
    class A {  
        void m() {  
            System.out.println("INNER");  
        }  
    }  
  
    public static void main(String [] args) {  
        //Insert statement here  
    }  
}
```

Which statement when inserted in the main(String []) method will print “INNER” in the output?

A -

```
Test.A a2 = new Test().new A();  
a2.m();
```

B -

```
Test.A a4 = this.new A();  
a4.m();
```

C -

```
A a3 = this.new A();  
a3.m();
```

D -

```
A a1 = new Test().new A();  
a1.m();
```

Advanced Java Class Design - 22

Will below code compile successfully?

```
interface I1 {  
    void m1();  
  
    interface I2 {  
        void m2();  
    }  
  
    abstract class A1 {  
        public abstract void m3();  
    }  
  
    class A2 {  
        public void m4() {  
            System.out.println(4);  
        }  
    }  
}
```

A - Yes

B - No

Advanced Java Class Design - 23

What will be the result of compiling and executing Test class?

```
class P {  
    private int var = 100;  
    class Q {  
        String var = "Java";  
        void print() {  
            System.out.println(var);  
        }  
    }  
}  
  
public class Test {  
    public static void main(String[] args) {  
        new P().new Q().print();  
    }  
}
```

- A - 100
- B - Exception is thrown at runtime
- C - Java
- D - Compilation error

Advanced Java Class Design - 24

What will be the result of compiling and executing Test class?

```
public class Test {  
    enum JobStatus {  
        SUCCESS, FAIL; //Line 3  
    }  
  
    enum TestResult {  
        PASS, FAIL; //Line 7  
    }  
  
    public static void main(String[] args) {  
        JobStatus js = JobStatus.FAIL;  
        TestResult tr = TestResult.FAIL;  
  
        System.out.println(js.equals(tr)); //Line 14  
        System.out.println(js == tr); //Line 15  
    }  
}
```

A - Compilation error at Line 15

B -

false
false

C - Compilation error at Line 14

D -

true
true

Advanced Java Class Design - 25

Given code:

```
class Message {  
    public void printMessage() {  
        System.out.println("Hello!");  
    }  
}  
  
public class Test {  
    public static void main(String[] args) {  
        Message msg = new Message() {  
            @Override  
            public void PrintMessage() {  
                System.out.println("HELLO!");  
            }  
        };  
        msg.printMessage();  
    }  
}
```

What will be the result of compiling and executing Test class?

- A - Compilation error
- B - Runtime error
- C - HELLO!
- D - Hello!

Advanced Java Class Design - 26

Given code of Test.java file:

```
interface Printer1 {  
    default void print() {  
        System.out.println("Printer1");  
    }  
}  
  
interface Printer2 {  
    public static void print() {  
        System.out.println("Printer2");  
    }  
}  
  
class Printer implements Printer1, Printer2 {  
  
}  
  
public class Test {  
    public static void main(String[] args) {  
        Printer printer = new Printer();  
        printer.print();  
    }  
}
```

What will be the result of compiling and executing Test class?

- A - Compilation error for Printer2
- B - Printer1
- C - Compilation error for Printer1
- D - Printer2
- E - Compilation error for Printer

Advanced Java Class Design - 27

Which of the annotation is used for Functional Interface?

A - @FunctionalInterface

B - @Functional

C - @Functional Interface

D - @FI

Advanced Java Class Design - 28

Given code:

```
class Outer {
    class Inner {
        public void m() {
            System.out.println("WELCOME!");
        }
    }
}

public class Test {
    public static void main(String[] args) {
        //Insert statement here
    }
}
```

Which statement when inserted in the main(String []) method will print "WELCOME!" in the output?

A -

```
Inner obj2 = new Outer().new Inner();
obj2.m();
```

B -

```
Outer.Inner obj1 = new Outer().new Inner();
obj1.m();
```

C -

```
Inner obj4 = this.new Inner();
obj4.m();
```

D -

```
Outer.Inner obj3 = this.new Inner();
obj3.m();
```

Advanced Java Class Design - 29

Below is the code of TestSellable.java file:

```
interface Sellable {  
    double getPrice();  
}  
  
public class TestSellable {  
    private static void printPrice(Sellable sellable) {  
        System.out.println(sellable.getPrice());  
    }  
  
    public static void main(String[] args) {  
        /*INSERT*/  
    }  
}
```

Which of the following options can replace /*INSERT*/ such that there are no compilation errors?

A -

```
printPrice(new Sellable() {  
  
});
```

B -

```
printPrice(new Sellable() {  
    @Override  
    public double getPrice() {  
        return 45.34;  
    }  
});
```

C - printPrice(null);

D - printPrice(new Sellable());

Advanced Java Class Design - 30

Given code of Test.java file:

```
interface I10 {  
    void m(String s);  
}  
  
public class Test {  
    public static void main(String[] args) {  
        method(new I10() {  
            @Override  
            public void m(String s) {  
                System.out.println(s.toUpperCase());  
            }  
        }, "good morning!");  
    }  
  
    private static void method(I10 obj, String text) {  
        obj.m(text);  
    }  
}
```

Which of the following code replaces the anonymous inner class code with lambda expression?

- A - method(s -> s.toUpperCase(), "good morning!");
- B - method(s -> { System.out.printtn(s.toUpperCase()) }, "good morning!");
- C - method(s -> System.out.println(s.toUpperCase()), "good morning!");
- D - method(s -> System.out.println(s.toUpperCase()));

Advanced Java Class Design - 31

Below is the code of Test.java file:

```
public class Test {  
    enum TrafficLight {  
        RED, YELLOW, GREEN;  
    }  
  
    public static void main(String[] args) {  
        TrafficLight tl = TrafficLight.valueOf(args[1]);  
        switch(tl) {  
            case TrafficLight.RED:  
                System.out.println("STOP");  
                break;  
            case TrafficLight.YELLOW:  
                System.out.println("SLOW");  
                break;  
            case TrafficLight.GREEN:  
                System.out.println("GO");  
                break;  
        }  
    }  
}
```

What will be the result of compiling and executing Test class by using the commands:

javac Test.java java Test RED AMBER

- A - IllegalArgumentException is thrown
- B - STOP
- C - No output
- D - None of the other options

Advanced Java Class Design - 32

Given Code:

```
class Outer {
    public static void sayHello() {}
    static {
        class Inner {
            /*INSERT*/
        }
        new Inner();
    }
}

public class TestOuter {
    public static void main(String[] args) {
        Outer.sayHello();
    }
}
```

Which of the following options can replace `/*INSERT*/` such that on executing `TestOuter` class, "HELLO" is printed in the output?

A -

```
static {
    System.out.println( "HELLO");
}
```

B -

```
{
    System.out.println( "HELLO");
}
```

C -

```
Inner(String s) {
    System.out.println(s);
}
```

D -

```
Inner() {
    System.out.println( "HELLO");
}
```

Advanced Java Class Design - 33

What will be the result of compiling and executing Test class?

```
class Foo {  
    static { //static initialization block  
        System.out.print(1);  
    }  
    class Bar {  
        static { //static initialization block  
            System.out.print(2);  
        }  
    }  
}  
  
public class Test {  
    public static void main(String [] args) {  
        new Foo().new Bar();  
    }  
}
```

- A - Exception is thrown at runtime
- B - 21
- C - 12
- D - Compilation error

Advanced Java Class Design - 34

Given:

```
package com.training.ocp;

enum TrafficLight {
    RED, YELLOW, GREEN;
}

public class Test {
    public static void main(String[] args) {
        TrafficLight tl1 = TrafficLight.GREEN;
        TrafficLight tl2 = tl1.clone(); //Line 10
        System.out.println(tl2); //Line 11
    }
}
```

What will be the result of compiling and executing Test class?

- A - Compilation error at Line 10
- B - Line 11 throws CloneNotSupportedException at runtime
- C - GREEN

Advanced Java Class Design - 35

Given code:

```
class Message {  
    public void printMessage() {  
        System.out.println("Hello!");  
    }  
}  
  
public class Test {  
    public static void main(String[] args) {  
        Message msg = new Message() {  
            public void PrintMessage() {  
                System.out.println("HELLO!");  
            }  
        };  
        msg.PrintMessage();  
    }  
}
```

What will be the result of compiling and executing Test class?

- A - HELLO!
- B - Hello!
- C - Compilation error
- D - Runtime error

Advanced Java Class Design - 36

For the given code:

```
abstract class Greetings {  
    abstract void greet(String s);  
}  
  
public class Test {  
    public static void main(String[] args) {  
        Greetings obj = new Greetings() {  
            public void greet(String s) {  
                System.out.println(s);  
            }  
        };  
        obj.greet("Happy New Year!");  
    }  
}
```

Which of the following options successfully replace anonymous inner class code with lambda expression code?

- A - Greetings obj = (String s) -> {System.out.println(s.toUpperCase());};
- B - Lambda expression cannot be used in this case
- C - Greetings obj = s -> {System.out.println(s.toUpperCase());};
- D - Greetings obj = s -> System.out.println(s.toUpperCase());

Advanced Java Class Design - 37

Below is the code of Test.java file:

```
class Outer {  
    private static int i = 10;  
    private int j = 20;  
  
    static class Inner {  
        void add() {  
            System.out.println(i + j);  
        }  
    }  
}  
  
public class Test {  
    public static void main(String[] args) {  
        Outer.Inner inner = new Outer.Inner();  
        inner.add();  
    }  
}
```

What will be the result of compiling and executing Test class?

- A - Compilation error in Test class code
- B - Compilation error in Inner class code
- C - Exception is thrown at runtime
- D - 30

Advanced Java Class Design - 38

Given code of Test.java file:

```
interface Printer {  
    default void print() {  
        System.out.println("Printer");  
    }  
}  
  
@FunctionalInterface  
interface ThreeDPrinter extends Printer {  
    @Override  
    void print();  
}  
  
public class Test {  
    public static void main(String[] args) {  
        ThreeDPrinter p = () -> System.out.println("3DPrinter");  
        p.print();  
    }  
}
```

What will be the result of compiling and executing Test class?

- A - Printer
- B - Compilation error in ThreeDPrinter class
- C - 3DPrinter
- D - Compilation error in Test class

Advanced Java Class Design - 39

Consider the code of Test.java file:

```
enum Flags {  
    TRUE, FALSE;  
  
    public Flags() {  
        System.out.println("HELLO");  
    }  
}  
  
public class Test {  
    public static void main(String[] args) {  
        Flags flags = Flags.TRUE;  
    }  
}
```

What will be the result of compiling and executing Test class?

- A - HELLO is printed once
- B - Compilation error
- C - HELLO is printed twice
- D - Exception is thrown at runtime

Advanced Java Class Design - 40

Given code:

```
class A {
    private String str = "Hello";
    public class B {
        public B(String s) {
            if(s != null)
                str = s;
        }
        public void m1() {
            System.out.println(str);
        }
    }
}

public class Test {
    public static void main(String[] args) {
        //Insert statement here
    }
}
```

Which statement when inserted in the main(String []) method will print “Hello” in the output?

- A - new A.B().m1();
- B - new A().new B(“hello”).m1();
- C - new A().new B(null).m1();
- D - new A().new B().m1();

Advanced Java Class Design - 41

Can an anonymous inner class implement multiple interfaces?

A - Yes

B - No

Advanced Java Class Design - 42

Consider below interface:

```
interface I2 {  
    int calc(int x);  
}
```

Which of the following is the correct lambda expression for I2?

- A - I2 obj4 = x -> x*x;
- B - I2 obj2 = (x) -> return x*x;
- C - I2 obji = x -> return x*x;
- D - I2 obj3 = x - > x*x;

Advanced Java Class Design - 43

Given code:

```
class A {  
    public void print(String name) {  
        class B {  
            B() {  
                System.out.println(name); //Line 5  
            }  
        }  
    }  
    B obj = new B(); //Line 9  
}  
  
public class Test {  
    public static void main(String[] args) {  
        new A().print("OCP"); //Line 14  
    }  
}
```

What will be the result of compiling and executing Test class?

- A - Compilation error at Line 14
- B - Compilation error at Line 5
- C - Compilation error at Line 9
- D - OCP

Advanced Java Class Design - 44

Is below functional interface correctly defined?

```
@FunctionalInterface
interface I8 {
    boolean equals(Object obj);
}
```

A - Yes

B - No

Advanced Java Class Design - 45

What will be the result of compiling and executing Test class?

```
class A {  
    A() {  
        System.out.print(1);  
    }  
    class B {  
        B() {  
            System.out.print(2);  
        }  
    }  
}  
  
public class Test {  
    public static void main(String [] args) {  
        B obj = new A().new B();  
    }  
}
```

A - 21

B - Compilation error

C - 2

D - 12

Advanced Java Class Design - 46

Will below code compile successfully?

```
class Outer {  
    interface I1 {  
        void m1();  
    }  
}
```

A - No

B - Yes

Advanced Java Class Design - 47

Below is the code of Test.java file:

```
class A {  
    static class B {  
  
    }  
}  
  
public class Test {  
    /*INSERT*/  
}
```

Which of the following options can replace `/*INSERT*/` such that there are no compilation errors?

- A - `A.B obj = new A.B();`
- B - `B obj = new B();`
- C - `A.B obj = new A().new B();`
- D - `B obj = new A.B();`

Advanced Java Class Design - 48

For the given code:

```
interface Printable {  
    void print(String msg);  
}  
  
public class Test {  
    public static void main(String[] args) {  
        Printable obj = new Printable() {  
            public void print(String msg) {  
                System.out.println(msg);  
            }  
        };  
        obj.print("Welcome!");  
    }  
}
```

Which of the following options successfully replace anonymous inner class code with lambda expression code?

Select ALL that apply.

- A - Printable obj = (String msg) -> {System.out.println(msg);};
- B - Printable obj = x -> System.out.printtln(x);
- C - Printable obj = (msg) -> System.out.println(msg);
- D - Printable obj = y -> System.out.printtin(y);
- E - Printable obj = msg -> System.out.println(msg);
- F - Printable obj = (msg) -> {System.out.println(msg);};

Advanced Java Class Design - 49

Below is the code of Test.java file:

```
public class Test {  
    enum TrafficLight {  
        RED, YELLOW, GREEN;  
    }  
  
    public static void main(String[] args) {  
        TrafficLight tl = TrafficLight.valueOf(args[0]);  
        switch(tl) {  
            case RED:  
                System.out.println("STOP");  
                break;  
            case YELLOW:  
                System.out.println("SLOW");  
                break;  
            case GREEN:  
                System.out.println("GO");  
                break;  
        }  
    }  
}
```

What will be the output if Test class is executed by the commands: javac Test.java java Test GREEN AMBER

- A - NullPointerException is thrown at runtime
- B - Compilation error
- C - IllegalArgumentException is thrown at runtime
- D - GO

Advanced Java Class Design - 50

Consider the code of Test.java file:

```
enum Flags {  
    TRUE;  
  
    Flags() {  
        System.out.println("HELLO");  
    }  
}  
  
public class Test {  
    public static void main(String[] args) {  
        Flags f1 = Flags.TRUE;  
        Flags f2 = Flags.TRUE;  
        Flags f3 = Flags.TRUE;  
    }  
}
```

What will be the result of compiling and executing Test class?

- A - HELLO is printed three times
- B - HELLO is printed twice
- C - HELLO Is not printed on to the console
- D - HELLO is printed once

Advanced Java Class Design - 51

Given code:

```
class Outer {
    Outer() {
        System.out.print(2);
    }
    /*INSERT 1*/

    class Inner {
        Inner() {
            System.out.print(4);
        }
        /*INSERT 2*/
    }
}

public class Test {
    public static void main(String[] args) {
        new Outer().new Inner();
    }
}
```

Currently on executing Test class, 24 is printed in the output.

Which of the following pairs will correctly replace /*INSERT 1*/ and /*INSERT 2*/ so that on executing Test class, 1234 is printed in the output?

A -

Replace /*INSERT 1*/ with static {System.out.print(1);};
Replace /*INSERT 2*/ with static {System.out.print(3);};

B -

Replace /*INSERT 1*/ with {System.out.print(1);};
Replace /*INSERT 2*/ with static {System.out.print(3);};

C -

Replace /*INSERT 1*/ with {System.out.print(1);};
Replace /*INSERT 2*/ with {System.out.print(3);};

D -

Replace /*INSERT 1*/ with static {System.out.print(1);};
Replace /*INSERT 2*/ with {System.out.print(3);};

Advanced Java Class Design - 52

What will be the result of compiling and executing Test class?

```
interface Operation {  
    int operate(int x, int y);  
}  
  
public class Test {  
    public static void main(String[] args) {  
        int x = 10;  
        int y = 20;  
        Operation o1 = (x, y) -> x * y;  
        System.out.println(o1.operate(5, 10));  
    }  
}
```

A - Exception is thrown at runtime

B - 50

C - Compilation error

D - 200

Advanced Java Class Design - 53

Given code:

```
class Outer {  
    private String msg = "A";  
    public void print() {  
        final String msg = "B";  
        class Inner {  
            public void print() {  
                System.out.println(this.msg);  
            }  
        }  
        Inner obj = new Inner();  
        obj.print();  
    }  
}  
  
public class Test {  
    public static void main(String[] args) {  
        new Outer().print();  
    }  
}
```

What will be the result of compiling and executing Test class?

- A - Exception is thrown at runtime
- B - Compilation error
- C - B
- D - A

Advanced Java Class Design - 54

Given code:

```
class Message {  
    public void printMessage() {  
        System.out.println("Hello!");  
    }  
}  
  
public class Test {  
    public static void main(String[] args) {  
        Message msg = new Message() {  
            public void PrintMessage() {  
                System.out.println("HELLO!");  
            }  
        };  
        msg.printMessage();  
    }  
}
```

What will be the result of compiling and executing Test class?

- A - Hello!
- B - Compilation error
- C - Runtime error
- D - HELLO!

Advanced Java Class Design - 55

What will be the result of compiling and executing Test class?

```
@FunctionalInterface
interface I7 {
    void print();
}

public class Test {
    String var = "Lambda";
    class Inner {
        int var = 1000;
        I7 obj = () -> System.out.println(this.var);
    }

    public static void main(String[] args) {
        Inner inner = new Test().new Inner();
        inner.obj.print();
    }
}
```

- A - Lambda
- B - 1000
- C - Compilation Error
- D - None of the other options

Advanced Java Class Design - 56

What will be the result of compiling and executing Test class?

```
@FunctionalInterface
interface I4 {
    void print();
    boolean equals(Object obj);
}

public class Test {
    public static void main(String[] args) {
        I4 obj = () -> System.out.println("Lambda expression");
        obj.print();
    }
}
```

A - Lambda expression

B - Compilation error

C - No output

D - Runtime error

Advanced Java Class Design - 57

Which of the following operator is used in lambda expressions?

A - ->

B - =>

C - ->

D - =>

Advanced Java Class Design - 58

What will be the result of compiling and executing Test class?

```
interface I1 {  
    void print();  
}  
  
public class Test {  
    public static void main(String[] args) {  
        I1 obj = () -> System.out.println("Hello");  
    }  
}
```

- A - Program compiles and executes successfully but nothing is printed on to the console
- B - Compilation error
- C - Hello
- D - Runtime error

Advanced Java Class Design - 59

What will be the result of compiling and executing Test class?

```
interface I6 {  
    void m6();  
}  
  
public class Test {  
    public static void main(String[] args) {  
        I6 obj = () -> {  
            int i = 10;  
            i++;  
            System.out.println(i);  
        };  
        obj.m6();  
    }  
}
```

- A - Compilation error
- B - Exception is thrown at runtime
- C - 11
- D - 10

Advanced Java Class Design - 60

Given code:

```
interface I1 {  
    void m1();  
}  
  
public class Test {  
    public static void main(String[] args) {  
        I1 i1 = new I1() {  
            @Override  
            public void m1() {  
                System.out.println(1234);  
            }  
        }  
        i1.m1();  
    }  
}
```

What will be the result of compiling and executing Test class?

- A - 1234
- B - No output
- C - Compilation error
- D - Runtime exception

Advanced Java Class Design - 61

Which of the following are Functional Interface in JDK 8?

- A - `java.lang.Cloneable`
- B - `java.lang.Runnable`
- C - `java.awt.event.ActionListener`
- D - `java.io.Serializable`
- E - `java.util.Comparator`

Advanced Java Class Design - 62

What will be the result of compiling and executing Test class?

```
enum Status {  
    PASS, FAIL, PASS;  
}  
  
public class Test {  
    public static void main(String[] args) {  
        System.out.println(Status.FAIL);  
    }  
}
```

A - Fail

B - FAIL

C - None of the other options

D - fail

Advanced Java Class Design - 63

Consider the code of Test.java file:

```
public class Test {  
    enum Directions {  
        NORTH("N"), SOUTH("S"), EAST("E"), WEST("W")  
  
        private String notation;  
  
        Directions(String notation) {  
            this.notation = notation;  
        }  
  
        public String getNotation() {  
            return notation;  
        }  
    }  
  
    public static void main(String[] args) {  
        System.out.println(Test.Directions.NORTH.getNotation());  
    }  
}
```

What will be the result of compiling and executing Test class?

- A - Exception is thrown at runtime
- B - NORTH
- C - Compilation error
- D - N

Advanced Java Class Design - 64

What will be the result of compiling and executing Test class?

```
class Foo {  
    public static void m1() {  
        System.out.println("Foo : m1()");  
    }  
    class Bar {  
        public static void m1() {  
            System.out.println("Bar : m1()");  
        }  
    }  
}  
  
public class Test {  
    public static void main(String [] args) {  
        Foo foo = new Foo();  
        Foo.Bar bar = foo.new Bar();  
        bar.m1();  
    }  
}
```

- A - Compilation error
- B - Runtime exception
- C - Bar : m1()
- D - Foo : m1()

Advanced Java Class Design - 65

Below the code of A.java file:

```
public class A {  
    private static class B {  
        private void log() {  
            System.out.println("static nested class");  
        }  
    }  
  
    public static void main(String[] args) {  
        /*INSERT*/  
    }  
}
```

Which of the following options can replace /*INSERT*/ such that there on executing class A, output is: static nested class?

A -

```
A.B obj2 = new A.B();  
obj2.log();
```

B -

```
B obj3 = new A().new B();  
obj3.log();
```

C -

```
A.B obj4 = new A().new B();  
obj4.log();
```

D -

```
B obj1 = new B();  
obj1.log();
```

Advanced Java Class Design - 66

Does below code compile successfully?

```
@FunctionalInterface
interface I1 {
    void print();
    boolean equals();
}
```

A - Yes

B - No

Advanced Java Class Design - 67

Given code:

```
class Message {  
    public void printMessage() {  
        System.out.println("Hello!");  
    }  
}  
  
public class Test {  
    public static void main(String[] args) {  
        Message msg = new Message() {}; //Line 9  
        msg.printMessage(); //Line 10  
    }  
}
```

What will be the result of compiling and executing Test class?

- A - NullPointerException is thrown by Line 10
- B - HELLO!
- C - Compilation error at Line 9
- D - Hello!

Advanced Java Class Design - 68

What will be the result of compiling and executing Test class?

```
interface Formatter {  
    public abstract String format(String s1, String s2);  
}  
  
public class Test {  
    public static void main(String[] args) {  
        Formatter f1 = (str1, str2) -> str1 + "_" +  
            str2.toUpperCase();  
        System.out.println(f1.format("Training", "Ocp"));  
    }  
}
```

A - TRAINING_Ocp

B - Training_OCP

C - Training_Ocp

D - TRAINING_OCP