



Question - 1

Access Modifiers

SCORE: 10 points

Here is the general syntax for *method* definition:

```
accessModifier returnType methodName(  
    parameterList )  
{  
    Java statements  
  
    return returnValue;  
}
```

What is true for the *accessModifier*?

- ☐ they are "protected" if omitted
- ☐ It can be omitted, but if not omitted it must be private or public.



It can be omitted, but if not omitted there are several choices, including private and public .



The access modifier must agree with the type of the return value.

Question - 2

tripletas

SCORE: 30 points

Given an array `nums` of n integers, are there elements a, b, c in `nums` such that $a + b + c = 0$? Find **number** of all unique triplets in the array which gives the sum of zero.

Note:

The solution set must not contain duplicate triplets.

Example:

```
Given array nums = [-1, 0, 1, 2, -1, -4],  
  
we have 2 triplets:  
  
[-1, 0, 1], [-1, 2, -1]  
  
thus, 2 is returned.
```

NOTE: Same set of elements just rearranged are not considered as 2 different triplets.

Question - 3

Java: Classes

SCORE: 10 points

[? Help](#)

Which of the following are true for Java Classes?

- ☐ The Void class extends the Class class.
- ☐ The Float class extends the Double class.
- ☐ The System class extends the Runtime class.
- ☒ The Integer class extends the Number class.

Question - 4

SCORE: 10 points

Java: Constructor, Exception Handling and Inheritance

Language Fundamentals

Constructors

Java

Exception Handling

Inheritance

Language-Specific

Core CS

What should be the output of the following code?

```
class AirPlane {
    public AirPlane() throws IOException {
        System.out.print("AirPlane");
        throw new IOException();
    }
}
class AirJet extends AirPlane {
    public AirJet() throws IOException {
        try {
            super();
        } catch (IOException e) {
            System.out.print("IOException is thrown
in AirJet");
        }
    }
}
public class Tester {
    public static void main(String args[]) {
        try {
            new AirJet();
        } catch (IOException e) {
            System.out.print("IOException is
thrown in Tester");
        }
    }
}
```

- ☐ "AirPlaneIOException is thrown in AirJet" will be printed.
- ☐ "AirPlaneIOException is thrown in AirJetIOException is thrown in Tester" will be printed.
- ☐ "AirPlaneIOException is thrown in Tester" will be printed.
- ☒ Compile error.

Question - 5

SCORE: 10 points

Easy

Java

Standard Library

Which of the following statements is correct. Select the one correct answer.

☐

Each Java file must have exactly one package statement to specify where the class is stored.

☐

If a Java file has both import and package statement, the import statement must come before package statement.

☐

A Java file has at least one class defined.

☒

If a Java file has a package statement, it must be the first statement (except comments).

Question - 6

SCORE: 10 points

Java: Find the Output

Java

General Programming

Exception Handling

Language-Specific

Core CS

Basic Programming

Consider the following Java code snippet:

```
public int divide(int a, int b) {  
    int c = -1;  
  
    try {  
        c = a / b;  
    }  
    catch (Exception e) {  
        System.err.print("Exception ");  
    }  
    finally {  
        System.err.println("Finally ");  
    }  
  
    return c;  
}
```

What will our code *print* when we call *divide(4, 0)*?

☒

Exception Finally

☐

Finally Exception

☐

Exception

☐

Finally

☐

No output

Question - 7

references

SCORE: 10 points

If a method assigns a new value to a primitive parameter, will this have any effect on its caller?

☐

No, because the method is not allowed to change the value of any parameter.

☐

Yes, the change will affect the matching value in the caller.

☒

No, because all the method has is a copy of its caller's values.

☐

Yes, because the method and its caller share the same section of memory.

Question - 8

inheritance 1

SCORE: 10 points

What restriction is there on using the `super` reference in a constructor?

☐

It can only be used in the parent's constructor.

☐

Only one child class can use it.

☐

It must be used in the last statement of the constructor.

☒

It must be used in the first statement of the constructor.