

Question - 1

Java Keywords

Which keyword is used to take control out of the enclosing loop?

- ☐ for
- ☐ break
- ☐ if
- ☐ continue

Question - 2

Java Constants

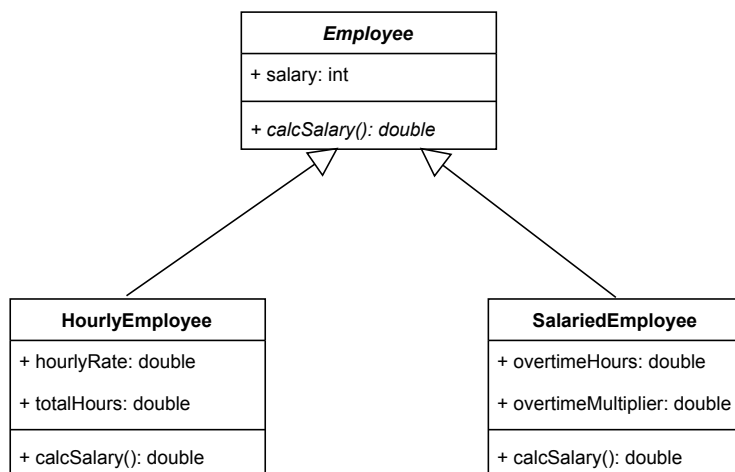
How is a constant declared so that it can be accessed without making an instance of a class in which it is declared?

- ☐ public final int intConst
- ☐ public static int intConst
- ☐ public static final int intConst
- ☐ public int intConst

Question - 3

Classes and Objects

Observe the following class diagram and state



Which of the following statements are true regarding it?

- ☐ Employee class is abstract and cannot be instantiated.
- ☐ Both HourlyEmployee and SalariedEmployee class should override the calcSalary() method, in order to get instantiated.
- ☐ Employee class cannot contains concrete methods.
- ☐ There is a composition relationship between Employee and the other two classes.

Question - 4

Java Interface

What is the output of the following program?

```
@FunctionalInterface
public interface MyInterface {
    void foo();
}
```

```
public class MyClass implements MyInterface {
    public void foo() {
        System.out.println("Hello");
    }
}
```

```
public class MyClass2 extends MyClass implements MyInterface{
    public void foo() {
        System.out.println("Hello 2");
    }
}
```

```
public class Main extends MyClass2{
    public static void main(String[] args) {
        MyClass c = new MyClass2();
        c.foo();
    }
}
```

- ☐ Hello 2
- ☐ Hello
- ☐ MyClass2 cannot extend a class and an interface at the same time.
- ☐ Runtime error

Question - 5

Java Operators

What is the value of the variable z in the statement `int x = 5; int y = x++; int z = ++y; ?`

- ☐ 5
- ☐ 6
- ☐ 7
- ☐ 8

Question - 6
Java Variables

What is the value of the variable c in the statement `int a = 5; int b = 6; int c = a = b; ?`

- ☐ 5
- ☐ 11
- ☐ 56
- ☐ 6

Question - 7
Java Inheritance Overriding

What will be the output of the following code block?

Animal.java

```
public abstract class Animal
{
    public abstract void makenoise();
}
```

Dog.java

```
public class Dog extends Animal
{
    public void makenoise()
    {
        System.out.println("Make Dog Noise...");
    }
}
```

GoldenRetriever.java

```
public class GoldenRetriever extends Dog
{
    public void makenoise()
    {
        super.makenoise();
        System.out.println("Make Golden Retriever Noise");
    }

    public static void main(String ... arg)
    {
        Dog dog=new GoldenRetriever();
        dog.makenoise();
    }
}
```

```
}  
}
```

- ☐ Make Dog Noise...
- ☐ Make Golden Retriever Noise
- ☐ Make Dog Noise...
Make Golden Retriever Noise
- ☐ throws ClassCastException on runtime

Question - 8

Java String Pool

How many strings will be added to the string pool upon execution of the following code block?

```
public static void main(String[] args) {  
    String str = "Hello There!";  
    String mtr = "Hello" + " " + "There" + "!";  
    String dtr = "Hello " + "There" + "!";  
    String gtr = "Hello There" + "!";  
}
```

- ☐ 1
- ☐ 3
- ☐ 5
- ☐ 7
- ☐ 9

Question - 9

Which of the following operators is overloaded for string objects?

Which of the following operators is overloaded for string objects?

- ☐ +
- ☐ -
- ☐ ==
- ☐ >>
- ☐ Java doesn't support operator overloading

Question - 10

Select the correct statement, from the options below:

Select the correct statement, from the options below:

- ☐ If object obj1 can access object obj2 that is eligible for garbage collection, then obj1 is also eligible for garbage collection
- ☐ Objects can be explicitly destroyed using the keyword delete
- ☐ An object will be garbage collected immediately after it becomes unreachable
- ☐ None of the above

Question - 11

Given the following code, what is the most likely result:

Given the following code, what is the most likely result:

```
import java.util.*;
public class Compares
{
    public static void main( String args[])
    {
        String[] cities = {"Bangalore","Pune","San Francisco","New York City"};
        MySort ms = new MySort();
        Arrays.sort(cities, ms);
        System.out.println(Arrays.binarySearch(cities, "New York City"));
    }
    static class MySort implements Comparator
    {
        public int compare( String a, String b)
        {
            return b.compareTo(a);
        }
    }
}
```

- ☐ -1
- ☐ 1
- ☐ 2
- ☐ Compilation fails

Question - 12

Bitwise Operators in Java

Consider the following Java snippet:

```
int x = 3 & 5;
int y = 3 | 5;
```

The values of 'x' and 'y' (respectively) are:

- ☐ 1,7
- ☐ 2,8
- ☐ 8,-2
- ☐ 1,8
- ☐ 2,7

Question - 13
JDK Design Patterns

One example of _____ Design pattern from JDK itself is the Collections.sort() method and the Comparator Interface, through which we can specify different criteria for sorting a collection of objects.

Which of the following is the best fit for the blank in this line?

- ☐ Singleton
- ☐ Adapter
- ☐ Factory
- ☐ Strategy

Question - 14
Value of k After Function Runs

Which is true of the following program?

```
public class TestFirstApp {
    static void doIt(int x, int y, int m) {
        if (x == 5) {
            m=y;
        } else {
            m=x;
        }
    }

    public static void main(String[] args) {
        int i=6, j=4, k=9;
        TestFirstApp.doIt(i,j,k);
        System.out.print(k);
    }
}
```

- ☐ Doesn't matter what the values of i and j are, the output will always be 5 .
- ☐ Doesn't matter what the values of k and j are, the output will always be 5 .
- ☐ Doesn't matter what the values of i and j are, the output will always be 9 .
- ☐ Doesn't matter what the values of k and j are, the output will always be 9 .

Question - 15

Java Types

Which of the following is not a Java primitive type?

- ☐ String
- ☐ float
- ☐ double
- ☐ int
- ☐ byte

Question - 16

Method Overloading

```
public void foo(ArrayList<String> data)
{
    //some code
}
public void foo (ArrayList<Integer> data)
{
    //some code
}
public ArrayList<String> foo (ArrayList<String> data)
{
    //some code
}
private void foo(List<String> data)
{
    //some code
}
public void foo(ArrayList<String> data, boolean flag)
{
    //some code
}
```

Which of the statements are true regarding this code?

- ☐ All the methods are considered as overloaded methods, except for private void foo(List data) because it has a private access modifier.
- ☐ All methods can coexist without issue.
- ☐ 'foo(ArrayList)' clashes with 'foo(ArrayList)', as both methods have the same erasure.
- ☐ private void foo(List data) {} is an overloaded method, while public ArrayList foo (ArrayList data) {} is not.

Question - 17

Java BufferedReader

file1.txt

Hello

World

file2.txt

Hackerrank

What is the output of this code?

```
import java.io.*;
public class Main{
    public static void main(String args[]) throws IOException {
        String str1, str2, str=null;
        File file1 = new File("file1.txt");
        File file2 = new File("file2.txt");
        BufferedReader br1 = new BufferedReader(new FileReader(file1));
        BufferedReader br2 = new BufferedReader(new FileReader(file2));
        while ((str1 = br1.readLine()) != null)
        {
            str2 = br2.readLine();
            if(str2 != null)
            {
                str=str1+" "+str2;
                System.out.println(str);
            }
            br1.close();
        }
    }
}
```

- ☐ Hello World
IOException: Stream closed
- ☐ Hello Hackerrank
World
- ☐ Hello World Hackerrank
- ☐ Hello Hackerrank
IOException: Stream closed

Question - 18

Java parseInt

What is the output of the following code?

```
public class Main{
    public static void main(String[] args) {
        try
        {
            int[] a = new int[5];
            String s="1.0";
```



```

        try
        {
            System.out.println(Integer.parseInt(s+a[4]));
        }
        catch (Exception e)
        {
            System.out.println("Exception 1 occurs. "+ e.getClass());
        }
        throw new Exception();
    }
    catch (Exception e) {
        System.out.println("Exception 2 occurs");
    }
}
}

```

- ☐ 1
Exception 2 occurs
- ☐ Exception 1 occurs. class java.lang.NumberFormatException
Exception 2 occurs
- ☐ Exception 1 occurs. class ArrayIndexOutOfBoundsException
Exception 2 occurs
- ☐ Compile-Time Error

Question - 19

Java Design Pattern

The following code represents which design pattern?

```

class Student {
    private static Student s;
    private Student() {
    }
    public static Student getInstance() {
        if(s == null) {
            s = new Student();
        }
        return s;
    }
}
class Main {
    public static void main(String[] args) {
        Student s;
        s= Student.getInstance();
    }
}

```

- ☐ Singleton Design Pattern
- ☐ Factory Design Pattern
- ☐ Adapter Design Pattern
- ☐ Iterator Pattern

Question - 20

Java Concatenate

In main(), after creating an object of MyClass, which code option returns the string s concatenated with the sum of two numbers x and y? For example, if *s = 'HackerRank'*, *x = 2*, and *y = 3*, the output should be HackerRank 5

```
public interface MyInterface {  
    String foo(String s, int x, int y);  
}
```

```
public class MyClass {  
    public String foo2(MyInterface i, String s, int x, int y) {  
        return i.foo(s, x, y);  
    }  
}
```

```
public class Main {  
    public static void main(String[] args) {  
        MyClass myClass = new MyClass();  
        // code to write  
    }  
}
```

- ☐ String result = myClass.foo2((s, x, y) -> s + " " + x + y, "HackerRank", 2, 3); System.out.println(result);
- ☐ String result = myClass.foo2((s, x, y) -> s + " " + (x + y), "HackerRank", 2, 3); System.out.println(result);
- ☐ String result = myClass.foo2->(s + " " + x + y, "HackerRank", 2, 3); System.out.println(result);
- ☐ String result = myClass.foo2((s, x, y) -> "HackerRank " + 2 + 3); System.out.println(result);

Question - 21

Default Packages

Which of the following packages is imported by default?

- ☐ java.lang
- ☐ java.io
- ☐ java.math
- ☐ java.text

Question - 22

Automatic Imports

Classes from packages **java.lang**, **java.io** and **java.util** are imported by default without having to be specified explicitly using import statements in a Java program.

True or False?

- ☐ True
- ☐ False

Question - 23

Interfaces

Which of the below is true about Interfaces?

- ☐ Interface can contain constructors
- ☐ A class can implement just one interface
- ☐ An interface can declare public and protected method only
- ☐ An interface cannot have instance variables

Question - 24

Will This Compile? 2

What is the output for the below code ?

```
public class A {
    public void printName(){
        System.out.println("Value-A");
    }
}

public class B extends A{
    public void printName(){
        System.out.println("Value-B");
    }
}

public class C extends A{
    public void printName(){
        System.out.println("Value-C");
    }
}

1. public class Test{
2.     public static void main (String[] args) {
3.         B b = new B();
4.         C c = new C();
5.         b = c;
6.         newPrint(b);
7.     }
8.     public static void newPrint(A a){
9.         a.printName();
```

```
10.     }  
11. }
```

- ☐ Value-B
- ☐ Value-C
- ☐ Compilation fails due to an error on lines 5
- ☐ Compilation fails due to an error on lines 9

Question - 25

Java Class Path

There is a java file named *Test.java* that needs access to a class contained in *app.jar* in the *exam* directory.

Which of the following commands sets classpath to compile clean?

- ☐ `javac -classpath exam/app.jar Test.java`
- ☐ `javac -classpath app.jar Test.java`
- ☐ `javac -classpath exam Test.java`
- ☐ None of the above

Question - 26

Java Print a Sum

What is the output of the following code?

```
1. public class A {  
2.     int add(int i, int j){  
3.         return i+j;  
4.     }  
5. }  
6. public class B extends A{  
7.     public static void main(String argv[]){  
8.         short s = 9;  
9.         System.out.println(add(s,6));  
10.    }  
11.}
```

- ☐ Compilation fails due to an error on line 2
- ☐ Compilation fails due to error an on line 9, non-static method referenced from a static context.
- ☐ Compilation fails due to a type mismatch on line 9.
- ☐ 15

Question - 27

What is result of the following command?

What is result of the following command?

```
1. import java.util.*;
2. class Priorities {
3.     public static void main(String[] args) {
4.         PriorityQueue toDo = new PriorityQueue();
5.         toDo.add("dishes");
6.         toDo.add("laundry");
7.         toDo.add("bills");
8.         toDo.offer("bills");
9.         System.out.print(toDo.size() + " " + toDo.poll());
10.        System.out.print(" " + toDo.peek() + " " + toDo.poll());
11.        System.out.println(" " + toDo.poll() + " " + toDo.poll());
12.    }
13. }
```

- ☐ 3 bills dishes laundry null null
- ☐ 3 bills bills dishes laundry null
- ☐ 3 dishes dishes laundry bills null
- ☐ 4 bills bills dishes laundry null
- ☐ 4 bills bills bills dishes laundry
- ☐ 4 dishes laundry laundry bills bills
- ☐ Compilation fails.
- ☐ An exception is thrown at runtime.

Question - 28

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

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 an import and a package statement, the import statement must come before package statement.
- ☐ A Java file must have at least one class defined.
- ☐ If a Java file has a package statement, it must be the first statement (except comments).

Question - 29

Arrays in Java

Which of the following statements is true?

- ☐ Arrays in Java are essentially objects.
- ☐ It is not possible to assign one array to another. However, individual elements of the array can be assigned.

- ☐ Array elements are indexed from 1 to the size of the array.
- ☐ If a method tries to access an array element beyond its range, a compile warning is generated.

Question - 30

Java: Inner Classes

Examine the following Java code, it includes an inner class, what will be the output of the following code?

```
public final class Test4 {  
    class Inner {  
        void test() {  
            if (Test4.this.flag) {  
                sample();  
            }  
        }  
    }  
    private boolean flag = true;  
    public void sample() {  
        System.out.println("Sample");  
    }  
    public Test4() {  
        (new Inner()).test();  
    }  
    public static void main(String args []) {  
        new Test4();  
    }  
}
```

- ☐ Prints out "Sample"
- ☐ Program produces no output but terminates correctly
- ☐ Program does not terminate.
- ☐ The program will not compile

Question - 31

Calling a Constructor

Where in a constructor, can you place a call to a constructor defined in the super class?

- ☐ Anywhere
- ☐ The first statement in the constructor
- ☐ The last statement in the constructor
- ☐ You can't call super in a constructor

Question - 32

Which of the following statements is correct?

Which of the following statements is correct for a method which is overriding the following method:

```
public void add(int a) {...}
```

- ☐ the overriding method must return void
- ☐ the overriding method must return int
- ☐ the overriding method can return whatever it likes

Question - 33

Java: Find the Output

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
- ☐ -1

Question - 34

What is the correct declaration of an abstract method that is intended to be pub?

What is the correct declaration of an abstract method that is intended to be public?

- ☐ public abstract void add();

- ☐ public abstract void add() {}
- ☐ public abstract add();
- ☐ public virtual add();

Question - 35

Java: String Array

Which of the following Java declaration of the String array is correct?

- ☐ String temp [] = new String {"j" "a" "z"};
- ☐ String temp [] = { "j" " " b" "c"};
- ☐ String temp = {"a", "b", "c"};
- ☐ String temp [] = {"a", "b", "c"};

Question - 36

Which of the following will output -4.0 ?

Which of the following will output -4.0 ?

- ☐ System.out.println(Math.floor(-4.7));
- ☐ System.out.println(Math.round(-4.7));
- ☐ System.out.println(Math.ceil(-4.7));
- ☐ System.out.println(Math.Min(-4.7));

Question - 37

Java: Classes

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 - 38

Java : Object Class

Which of the following is true?

- ☐ The Class class is the superclass of the Object class.
- ☐ The Object class is final.
- ☐ The Class objects are constructed by the JVM as classes are loaded by an instance of java.lang.ClassLoader
- ☐ None of the above

Question - 39

Declarations

Given the following declarations

```
String s1=new String("Hello")
String s2=new String("there");
String s3=new String();
```

Which of the following are legal operations?

- ☐ s3=s1 + s2;
- ☐ s3=s1 - s2;
- ☐ s3=s1 & s2
- ☐ s3=s1 && s2

Question - 40

Java String Concatenation

What is the output of the following program?

```
public class Question {
    public static void main(String args[]) {
        String s1 = "abc";
        String s2 = "def";
        String s3 = s1.concat(s2.toUpperCase( ) );
        System.out.println(s1+s2+s3);
    }
}
```

- ☐ abcdefabcdef
- ☐ abcabcDEFDEF
- ☐ abcdefabcDEF
- ☐ None of the above

Question - 41

What is the result of trying to compile and run this program?

```
public class Test {  
    public static void main(String[] args){  
        int[] a = {1};  
        Test t = new Test();  
        t.increment(a);  
        System.out.println(a[a.length - 1]);  
    }  
    void increment(int[] i){  
        i[i.length - 1]++;  
    }  
}
```

- ☐ It generates a compiler error.
- ☐ It compiles and prints 2.
- ☐ It compiles and prints 1.
- ☐ It compiles and generates an `ArrayIndexOutOfBoundsException` exception at runtime.

Question - 42

Java : Division Check

What is the result when one tries to compile and run the following code?

```
public final static void main(String[] args){  
    double d = 10.0 / -0;  
    if(d == Double.POSITIVE_INFINITY)  
        System.out.println("Positive infinity");  
    else  
        System.out.println("Negative infinity");  
}
```

- ☐ Positive infinity
- ☐ Negative infinity
- ☐ Will fail to compile
- ☐ Runtime exception

Question - 43

"Syntax Review 1"

The following code is in a file called `Test.java`

```
class Base {  
    public static void main(String[] args){  
        System.out.println("Hello");  
    }  
}  
public class Test extends Base{}
```

What happens when it is compiled and run?

- ☐ It fails to compile.
- ☐ It compiles and generates a runtime error.
- ☐ It compiles and runs with no output.
- ☐ It compiles and prints "Hello".