# INFYTQ MCQS

1. Java is related to C++, which is a direct descendent of C.
**1. true**
2. false

2. Much of the character of Java is inherited from languages ___
1. C
2. C++
**3. all of the above**
4. none of the above

3. Java was conceived by ___ at Sun Microsystems, Inc. in 1991.
1. James Gosling
2. Patrick Naughton
3. Chris Warth and Ed Frank
**4. all of the above**

4. Java language was initially called "Oak" but was renamed "Java" in 1995.
**1. Correct**
2. Incorrect

5. Java can be used to create two types of programs: applications and ___
**1. applets**
2. servlets
3. both 1 and 2
4. none of the above

6. The output of a Java compiler is not executable code. Rather, it is byte code.
**1. Valid statement**
2. Invalid statement

7. Bytecode is a highly optimized set of instructions designed to be executed by the Java run-time system, which is called the ___
**1. JVM**
2. IDE
3. working environment
4. all of the above

8. JVM stands for ___
**1. Java Virtual Machine**
2. Joint virtual machine
3. java virtual means
4. joint virtual minute

9. JIT stands for ___
1. Just In Temporary
**2. Just In Time**
3. Jump In Time
4. joke in Time

10. Java was not designed to be source-code compatible with any other language.
**1. true**
2. false

11. Java was designed to meet the real-world requirement of creating interactive, networked Programs
**1. correct**
2. incorrect

12. Java enables the creation of cross-platform programs by compiling into an intermediate representation called ___
1. code
2. intermediate code
**3. Java byte code**
4. none of the above

13. Remote Method Invocation (RMI). This feature brings an unparalleled level of abstraction to___ programming
1. socket
**2. client/server**
3. c++
4. C

14. ___programs carry with them substantial amounts of run-time type information that is used to verify and resolve accesses to objects at run time.
1. C++
2. C
**3. Java**
4. all of the above

15. JDBC stands for ___

**1. Java Database Connectivity**

2. Joint Database connection

3. Just Dependent component

4. none of the above

16. ___ which allows programs to access SQL databases

1. JVM

**2. JDBC**

3. JNI

4. IDE

17. JNI means ___

1. Java Native Immediate

2. Java Normal Interface

**3. Java Native Interface**

4. Joint Normal Interface

18. ___ is a set of user interface components that is implemented entirely in Java

1. intermediate code

2. Byte code

**3. Swing**

4. Servelets

19. Collections are groups of objects. Java 2 provides several types of collections, such as ___, for your use. Collections offer a new way to solve several common programming problems.

1. linked lists

2. Dynamic arrays

3. Hash table

**4. all of the above**

20. Common Object Request Broker Architecture means CORBA

**1. True**

2. false

21. ORB stands for ___

**1. Object Request Broker**

2. On-Line response byte

3. Off-line request broker

4. Object response byte code

22. IDL means ___
1. Immediate Definition Language
2. Interface Digital Language
**3. Interface Definition Language**
4. Internet Dynamic Language

23. When Java source code is compiled, each individual class is put into its own output file named after the class and using the .class extension.
**1. True**
2. False

24. Java is not case sensitive /portable language
1. Correct statement
**2. Incorrect statement**

25. Java allows two or more statements to be grouped into blocks of code, also called ___
1.code
2. blocks.
**3. code blocks**
4. none of the above

26. Java is a free-form language. This means that you do not need to follow any special indentation rules.
**1. valid**
2. Invalid statement

27. The most commonly used separator in Java is the ___
1. comma
**2. semicolon**
3. single quotes
4. Double quotes

28. Java defines eight simple (or elemental) types of data: byte, short, int, long, char, float, double, and boolean.
**1. True**
2. False

29. Java allows variables to be initialized ___
1. statically
**2. dynamically**

3. both of the above

4. none of the above

30. each native method is ___-and operating-system-dependent

1. monitor

**2. CPU**

3. printer

4. webserver

31. The ability to create robust programs was given a ___ priority in the design of Java.

1. low

**2. high**

3. medium

4. all of the above

32. Java Virtual Machine is an attempt to the goal that was "write once; run anywhere, any time, forever."

**1. True**

2. False

Qs33. Java is designed for the distributed environment of the Internet because it handles ___ protocols

1. TCP

2. IP

3. HTTP

**4. both 1 and 2**

34. ___ is the mechanism that binds together code and the data it manipulates and keeps both safes from outside interference and misuse.

1. Inheritance

2. Polymorphism

**3. Encapsulation**

4. Multithreaded

35. A ___ defines the structure and behaviour (data and code) that will be shared by a set of objects.

**1. Class**

2. Objects

3. group of objects

4. Inheritance

36. The code that operates on that data is referred to as ___
1. member methods
2. methods.
**3. both 1 and 2**
4. none of the above

37. Inheritance interacts with encapsulation as well
**1. True**
2. False

38. Polymorphism allows you to create ___
1. clean
2. sensible
3. readable, and resilient code
**4. all of the above**

39. ___ allows you to migrate your implementations over time without breaking the code that depends on the public interface of your classes.
**1. Encapsulation**
2. polymorphism
3. Portability
4. none of the above

40. In Java, a source file is officially called a ___
1. runtime unit
**2. compilation unit**
3. dynamic unit
4. static unit

41. Java was designed to meet the real-world requirement of creating ___ programs. To accomplish this, Java supports ___ threaded programming, which allows you to write programs that do many things simultaneously.
1. interactive, multi
2. networked, uni
**3. interactive and networked, multi**
4. web-enabled, dual

42. Java enables the creation of cross-platform programs by compiling into an intermediate representation called Java___. This code can be interpreted on any system that provides a ___
**1. bytecode, Java Virtual Machine.**

2. code, IDE

3. intermediate code, JNI

4. bytecode, JNI

43. Java programs carry with them substantial amounts of ___ time type information that is used to verify and resolve accesses to objects at ___ time

**1. run, run**

1. compile, run

2. run, compile

3. compile, compile

44. The concept of ___is often expressed by the phrase "one interface, multiple methods." This means that it is possible to design a generic interface to a group of related activities. This helps reduce ___ –by allowing the same interface to be used to specify a general class of action

1. polymorphism, simplicity

2. Inheritance, complexity

**3. polymorphism, complexity**

4. Multithreading, complexity

45. From ___, Java derives its syntax object-oriented features were influenced by___

**1. C, C++**

2. C#, C++

3. java script, C#

4. VB.net, C

46___and others began work on a portable, platform-independent language that could be used to produce code that would run on a variety of CPUs under differing environments. This effort ultimately led to the creation of ___

**1. Gosling, Java.**

2. Dennis, C++

3. Gosling, java

4. Dennis, C

47. OOP is a programming methodology that helps organize complex programs through the use of inheritance,___ and ___

**1. encapsulation, polymorphism**

2. multithreading, data abstraction

3. Data hiding, encapsulation

4. polymorphism, data hiding

48. Java is also a ___ language. Java derives much of its character from ___and C++.
**1. Programmer's, C**
2. system's, C++
3. operating system, Visual Basic
4. programmer's, Java

49. (i) Java is cohesive and logically not consistent Language. (ii) Java gives the programmer's, full control.
**1. (i)False (ii)True**
2. (i)True (ii)False
3. (i)False (ii)False
4. (i)True (ii)True

50. (i) Java is not a language with training wheels. It is a language for professional programmers
(ii) Java as simply the "Internet version of C++."
1. (i)False (ii)True
2. (i)True (ii)False
3. (i)False (ii)False
**4. (i)True (ii)True**

Here are 1000 Java Programming MCQ (Chapterwise).
1. Who invented Java Programming?
a) Guido van Rossum
b) James Gosling
c) Dennis Ritchie
d) Bjarne Stroustrup
View Answer
Answer: b
Explanation: Java programming was developed by James Gosling at Sun Microsystems in 1995. James Gosling is well known as the father of Java.

2. Which statement is true about Java?
a) Java is a sequence-dependent programming language
b) Java is a code dependent programming language
c) Java is a platform-dependent programming language
d) Java is a platform independent programming language
View Answer
Answer: d
Explanation: Java is called 'Platform Independent Language' as it primarily works on the principle of 'compile once, run everywhere'.

3. Which component is used to compile, debug and execute the java programs?
a) JRE
b) JIT
c) JDK
d) JVM
View Answer

Answer: c
Explanation: JDK is a core component of Java Environment and provides all the tools, executables and binaries required to compile, debug and execute a Java Program.

4. Which one of the following is not a Java feature?
a) Object-oriented
b) Use of pointers
c) Portable
d) Dynamic and Extensible
View Answer

Answer: b
Explanation: Pointers is not a Java feature. Java provides an efficient abstraction layer for developing without using a pointer in Java. Features of Java Programming are Portable, Architectural Neutral, Object-Oriented, Robust, Secure, Dynamic and Extensible, etc.

5. Which of these cannot be used for a variable name in Java?
a) identifier & keyword
b) identifier
c) keyword
d) none of the mentioned
View Answer

Answer: c
Explanation: Keywords are specially reserved words that can not be used for naming a user-defined variable, for example: class, int, for, etc.

advertisement

6. What is the extension of java code files?
a) .js
b) .txt
c) .class
d) .java
View Answer

Answer: d
Explanation: Java files have .java extension.

7. What will be the output of the following Java code?

```
1.    class increment {
```

```
2.        public static void main(String args[])
3.        {
4.            int g = 3;
5.            System.out.print(++g * 8);
6.        }
7.     }
```

a) 32
b) 33
c) 24
d) 25
View Answer
Answer: a
Explanation: Operator ++ has more preference than *, thus g becomes 4 and when multiplied by 8 gives 32.
output:

```
$ javac increment.java
$ java increment
32
```

8. Which environment variable is used to set the java path?
a) MAVEN_HOME
b) CLASSPATH
c) JAVA
d) JAVA_HOME
View Answer
Answer: d
Explanation: JAVA_HOME is used to store a path to the java installation.

9. What will be the output of the following Java code?

```
1. class output {
2.        public static void main(String args[])
3.        {
4.            double a, b,c;
5.            a = 3.0/0;
6.            b = 0/4.0;
7.            c=0/0.0;
8.
9.       System.out.println(a);
10.            System.out.println(b);
11.            System.out.println(c);
12.        }
13.     }
```

a) NaN
b) Infinity

c) 0.0

d) all of the mentioned

Answer: a

Explanation: For floating point literals, we have constant value to represent (10/0.0) infinity either positive or negative and also have NaN (not a number for undefined like 0/0.0), but for the integral type, we don't have any constant that's why we get an arithmetic exception.

10. Which of the following is not an OOPS concept in Java?

a) Polymorphism

b) Inheritance

c) Compilation

d) Encapsulation

Answer: c

Explanation: There are 4 OOPS concepts in Java. Inheritance, Encapsulation, Polymorphism and Abstraction.

11. What is not the use of "this" keyword in Java?

a) Referring to the instance variable when a local variable has the same name

b) Passing itself to the method of the same class

c) Passing itself to another method

d) Calling another constructor in constructor chaining

Answer: b

Explanation: "this" is an important keyword in java. It helps to distinguish between local variable and variables passed in the method as parameters.

12. What will be the output of the following Java program?

```
1.    class variable_scope
2.    {
3.        public static void main(String args[])
4.        {
5.            int x;
6.            x = 5;
7.            {
8.          int y = 6;
9.          System.out.print(x + " " + y);
10.            }
11.            System.out.println(x + " " + y);
12.        }
13.    }
```

a) Compilation error
b) Runtime error
c) 5 6 5 6
d) 5 6 5

Answer: a

Explanation: Second print statement doesn't have access to y , scope y was limited to the block defined after initialization of x.

output:

```
$ javac variable_scope.java
Exception in thread "main" java.lang.Error: Unresolved compilation problem: y cannot be
resolved to a variable
```

13. What will be the error in the following Java code?

```
    byte b = 50;
    b = b * 50;
```

a) b cannot contain value 50
b) b cannot contain value 100, limited by its range
c) No error in this code
d) * operator has converted b * 50 into int, which can not be converted to byte without casting

Answer: d

Explanation: While evaluating an expression containing int, bytes or shorts, the whole expression is converted to int then evaluated and the result is also of type int.

14. What will be the output of the following Java program?

```
1.    class evaluate
2.    {
3.        public static void main(String args[])
4.            {
5.          int arr[] = new int[] {0 , 1, 2, 3, 4, 5, 6, 7, 8, 9};
6.          int n = 6;
7.              n = arr[arr[n] / 2];
8.          System.out.println(arr[n] / 2);
9.            }
10.    }
```

a) 2
b) 1
c) 4
d) 0

Answer: b

Explanation: Array arr contains 10 elements. n contains 6 thus in next line n is given value 3 printing arr[3]/2 i:e 3/2 = 1 because of int Value, by int values there is no rest. If this values would be float the result would be 1.5.

output:

```
$ javac evaluate.java
$ java evaluate
1
```

15. Which of the following is a type of polymorphism in Java Programming?
a) Multiple polymorphism
b) Compile time polymorphism
c) Multilevel polymorphism
d) Execution time polymorphism
View Answer

Answer: b

Explanation: There are two types of polymorphism in Java. Compile time polymorphism (overloading) and runtime polymorphism (overriding).

16. What will be the output of the following Java program?

```
1.    class leftshift_operator
2.    {
3.        public static void main(String args[])
4.        {
5.            byte x = 64;
6.            int i;
7.            byte y;
8.            i = x << 2;
9.            y = (byte) (x << 2)
10.            System.out.print(i + " " + y);
11.        }
12.    }
```

a) 0 256
b) 0 64
c) 256 0
d) 64 0
View Answer

Answer: c

Explanation: None.

output:

```
$ javac leftshift_operator.java
$ java leftshift_operator
256 0
```

17. What will be the output of the following Java code?

```
1. class Output
2. {
3.         public static void main(String args[])
4.         {
5.             int x=y=z=20;
6.
7.         }
8. }
```

a) compile time error
b) run time error
c) 20
d) compile and runs fine
View Answer
Answer: a
Explanation: None.

18. Which of the following package is used for text formatting in Java programming language?
a) java.io
b) java.awt.text
c) java.awt
d) java.text
View Answer
Answer: d
Explanation: java.text allows formatting, searching and manipulating text.

19. Which of the following is not a segment of memory in java?
a) Code Segment
b) Register Segment
c) Stack Segment
d) Heap Segment
View Answer
Answer: b
Explanation: There are only 3 types of memory segment. Stack Segment, Heap Segment and Code Segment.

20. What will be the output of the following Java program?

```
1.     class box
2.     {
3.         int width;
4.         int height;
5.         int length;
```

```
6.        }
7.        class mainclass
8.        {
9.            public static void main(String args[])
10.            {
11.                box obj = new box();
12.                obj.width = 10;
13.                obj.height = 2;
14.                obj.length = 10;
15.                int y = obj.width * obj.height * obj.length;
16.                System.out.print(y);
17.            }
18.        }
```

a) 100
b) 400
c) 200
d) 12

View Answer

Answer: c
Explanation: None.
output:

```
$ javac mainclass.java
$ java mainclass
200
```

21. What is Truncation in Java?
a) Floating-point value assigned to a Floating type
b) Floating-point value assigned to an integer type
c) Integer value assigned to floating type
d) Integer value assigned to floating type

View Answer

Answer: b
Explanation: None.

22. What will be the output of the following Java program?

```
1.        class Output
2.        {
3.            public static void main(String args[])
4.            {
5.                int arr[] = {1, 2, 3, 4, 5};
6.                for ( int i = 0; i < arr.length - 2; ++i)
7.                    System.out.println(arr[i] + " ");
8.            }
9.        }
```

a) 1 2 3 4 5
b) 1 2 3 4
c) 1 2
d) 1 2 3

View Answer

Answer: d

Explanation: arr.length() is 5, so the loop is executed for three times.
output:

```
$ javac Output.java
$ java Output
1 2 3
```

23. What will be the output of the following Java code snippet?

```
1. class abc
2. {
3.     public static void main(String args[])
4.     {
5.         if(args.length>0)
6.         System.out.println(args.length);
7.     }
8. }
```

a) The snippet compiles and runs but does not print anything
b) The snippet compiles, runs and prints 0
c) The snippet compiles, runs and prints 1
d) The snippet does not compile

View Answer

Answer: a

Explanation: As no argument is passed to the code, the length of args is 0. So the code will not print.

24. What is the extension of compiled java classes?
a) .txt
b) .js
c) .class
d) .java

View Answer

Answer: c

Explanation: The compiled java files have .class extension.

25. Which exception is thrown when java is out of memory?
a) MemoryError
b) OutOfMemoryError
c) MemoryOutOfBoundsException

d) MemoryFullException
View Answer
Answer: b
Explanation: The Xms flag has no default value, and Xmx typically has a default value of 256MB. A common use for these flags is when you encounter a java.lang.OutOfMemoryError.

26. What will be the output of the following Java program?

```
1.  class Alligator
2.  {
3.   public static void main(String[] args)
4.    {
5.     int []x[] = {{1,2}, {3,4,5}, {6,7,8,9}};
6.     int [][]y = x;
7.     System.out.println(y[2][1]);
8.    }
9.  }
```

a) Compilation Error
b) 2
c) 3
d) 7
View Answer
Answer: d
Explanation: Both x,and y are pointing to the same array.

27. What will be the output of the following Java code?

```
1.    class A
2.    {
3.        int i;
4.        void display()
5.        {
6.            System.out.println(i);
7.        }
8.    }
9.    class B extends A
10.   {
11.       int j;
12.       void display()
13.       {
14.           System.out.println(j);
15.       }
16.   }
17.    class method_overriding
```

```
18.    {
19.        public static void main(String args[])
20.        {
21.            B obj = new B();
22.            obj.i=1;
23.            obj.j=2;
24.            obj.display();
25.        }
26.    }
```

a) 1
b) 2
c) 0
d) Error
View Answer
Answer: b
Explanation: class A & class B both contain display() method, class B inherits class A, when display() method is called by object of class B, display() method of class B is executed rather than that of Class A.
output:

```
$ javac method_overriding.java
$ java method_overriding
2
```

28. Which of these are selection statements in Java?
a) break
b) continue
c) for()
d) if()
View Answer
Answer: d
Explanation: Continue and break are jump statements, and for is a looping statement.

29. Which of these coding types is used for data type characters in Java?
a) ISO-LATIN-1
b) UNICODE
c) ASCII
d) None of the mentioned
View Answer
Answer: b
Explanation: Unicode defines fully international character set that can represent all the characters found in all human languages. Its range is from 0 to 65536.

30. What will be the output of the following Java code?

```
1.    class String_demo
2.    {
3.        public static void main(String args[])
4.        {
5.            char chars[] = {'a', 'b', 'c'};
6.            String s = new String(chars);
7.            System.out.println(s);
8.        }
9.    }
```

a) abc
b) a
c) b
d) c
View Answer
Answer: a
Explanation: String(chars) is a constructor of class string, it initializes string s with the values stored in character array chars, therefore s contains "abc".
output:

```
$ javac String_demo.java
$ java String_demo
abc
```

31. What will be the output of the following Java program?

```
1.    class recursion
2.    {
3.        int func (int n)
4.        {
5.            int result;
6.            if (n == 1)
7.                return 1;
8.            result = func (n - 1);
9.            return result;
10.       }
11.   }
12.   class Output
13.   {
14.       public static void main(String args[])
15.       {
16.           recursion obj = new recursion() ;
17.           System.out.print(obj.func(5));
18.       }
19.   }
```

a) 1
b) 120

c) 0

d) None of the mentioned

Answer: a

Explanation: None.

Output:

```
$ javac Output.javac
$ java Output
1
```

32. What will be the output of the following Java code?

```
1.    class output
2.    {
3.        public static void main(String args[])
4.        {
5.            String c = "Hello i love java";
6.            boolean var;
7.            var = c.startsWith("hello");
8.            System.out.println(var);
9.        }
10.    }
```

a) 0

b) true

c) 1

d) false

Answer: d

Explanation: startsWith() method is case sensitive "hello" and "Hello" are treated differently, hence false is stored in var.

Output:

```
$ javac output.java
$ java output
false
```

33. Which of these keywords is used to define interfaces in Java?

a) intf

b) Intf

c) interface

d) Interface

Answer: c

Explanation: None.

34. What will be the output of the following Java program?

```
1.    class output
2.    {
3.        public static void main(String args[])
4.        {
5.            StringBuffer s1 = new StringBuffer("Hello");
6.            StringBuffer s2 = s1.reverse();
7.            System.out.println(s2);
8.        }
9.    }
```

a) HelloolleH
b) olleHHello
c) Hello
d) olleH
View Answer
Answer: d
Explanation: reverse() method reverses all characters. It returns the reversed object on which it was called.
Output:

```
$ javac output.java
$ java output
olleH
```

35. What will be the output of the following Java code?

```
1.    class Output
2.    {
3.        public static void main(String args[])
4.        {
5.            Integer i = new Integer(257);
6.            byte x = i.byteValue();
7.            System.out.print(x);
8.        }
9.    }
```

a) 257
b) 256
c) 1
d) 0
View Answer
Answer: a
Explanation: i.byteValue() method returns the value of wrapper i as a byte value. i is 257, range of byte is 256 therefore i value exceeds byte range by 1 hence 1 is returned and stored in x.
Output:

```
$ javac Output.java
```

```
$ java Output
1
```

36. What will be the output of the following Java program?

```
1.    class Output
2.    {
3.        public static void main(String args[])
4.        {
5.            double x = 2.0;
6.            double y = 3.0;
7.            double z = Math.pow( x, y );
8.            System.out.print(z);
9.        }
10.   }
```

a) 9.0
b) 8.0
c) 4.0
d) 2.0
View Answer
Answer: b
Explanation: Math.pow(x, y) methods returns value of y to the power x, i:e x ^ y, 2.0
^ 3.0 = 8.0.
Output:

```
$ javac Output.java
$ java Output
8.0
```

37. Which of these class is a superclass of every class in Java?
a) ArrayList class
b) Abstract class
c) Object class
d) String class
View Answer
Answer: c
Explanation: Object class is superclass of every class in Java.

38. What will be the output of the following Java code?

```
1.    class Output
2.    {
3.        public static void main(String args[])
4.        {
5.            double x = 3.14;
6.            int y = (int) Math.ceil(x);
```

```
7.              System.out.print(y);
8.          }
9.      }
```

a) 3
b) 0
c) 4
d) 3.0
View Answer
Answer: c
Explanation: ciel(double X) returns the smallest whole number greater than or equal to variable x.
Output:

```
$ javac Output.java
$ java Output
4
```

39. What will be the output of the following Java code?

```
1.      class Output
2.      {
3.          public static void main(String args[])
4.          {
5.              int a = Character.MIN_VALUE;
6.              System.out.print((char)a);
7.          }
8.      }
```

a) @
b) Space
c) <
d) !
View Answer
Answer: b
Explanation: Character.MIN_VALUE returns the smallest character value, which is of space character ' '.
Output:

```
$ javac Output.java
$ java Output
```

40. What will be the output of the following Java program?

```
1.      import java.net.*;
2.      class networking
3.      {
4.          public static void main(String[] args) throws Exception
```

```
5.        {
6.            URL obj = new URL("https://www.sanfoundry.com/javamcq");
7.            URLConnection obj1 = obj.openConnection();
8.            int len = obj1.getContentLength();
9.            System.out.print(len);
10.       }
11.   }
```

Note: Host URL is having length of content 127.
a) 127
b) 126
c) Runtime Error
d) Compilation Error
View Answer
Answer: a
Explanation: None.
Output:

```
$ javac networking.java
$ java networking
127
```

41. Which of the below is not a Java Profiler?
a) JProfiler
b) Eclipse Profiler
c) JVM
d) JConsole
View Answer
Answer: c
Explanation: Memory leak is like holding a strong reference to an object although it would never be needed anymore. Objects that are reachable but not live are considered memory leaks. Various tools help us to identify memory leaks.

42. What will be the output of the following Java program?

```
1.    import java.net.*;
2.    class networking
3.    {
4.        public static void main(String[] args) throws MalformedURLException
5.        {
6.            URL obj = new URL("https://www.sanfoundry.com/javamcq");
7.            System.out.print(obj.toExternalForm());
8.        }
9.    }
```

a) www.sanfoundry.com
b) https://www.sanfoundry.com/javamcq
c) sanfoundry

d) sanfoundry.com
Answer: b
Explanation: toExternalForm() is used to know the full URL of an URL object.
Output:

```
$ javac networking.java
$ java networking
https://www.sanfoundry.com/javamcq
```

43. Which of these keywords can be used to prevent Method overriding in Java?
a) final
b) protected
c) static
d) constant
Answer: a
Explanation: To disallow a method from being overridden, specify final as a modifier at the start of its declaration. Methods declared as final cannot be overridden.

44. What will be the output of the following Java code snippet?

```
1.    import java.util.*;
2.    class Arraylist
3.    {
4.        public static void main(String args[])
5.        {
6.            ArrayList obj = new ArrayList();
7.            obj.add("A");
8.            obj.add("B");
9.            obj.add("C");
10.            obj.add(1, "D");
11.            System.out.println(obj);
12.        }
13.    }
```

a) [A, D, C]
b) [A, B, C]
c) [A, B, C, D]
d) [A, D, B, C]
Answer: d
Explanation: obj is an object of class ArrayList hence it is an dynamic array which can increase and decrease its size. obj.add("X") adds to the array element X and obj.add(1,"X") adds element x at index position 1 in the list, Hence obj.add(1,"D") stores D at index position 1 of obj and shifts the previous value stored at that

position by 1.
Output:

```
$ javac Arraylist.java
$ java Arraylist
[A, D, B, C].
```

45. What will be the output of the following Java code?

```
1.    import java.util.*;
2.    class date
3.    {
4.        public static void main(String args[])
5.        {
6.            Date obj = new Date();
7.            System.out.print(obj);
8.        }
9.    }
```

a) Any Garbage Value
b) Prints Present Time & Date
c) Runtime Error
d) Prints Present Date

View Answer

Answer: b
Explanation: None.
Output:

```
$ javac date.java
$ java date
Tue Jun 11 11:29:57 PDT 2013
```

46. Which of these packages contains the exception Stack Overflow in Java?
a) java.io
b) java.system
c) java.lang
d) java.util

View Answer

Answer: c
Explanation: None.

47. What will be the output of the following Java program?

```
1.    import java.util.*;
2.    class Collection_iterators
3.    {
4.        public static void main(String args[])
5.        {
```

```
6.          LinkedList list = new LinkedList();
7.          list.add(new Integer(2));
8.          list.add(new Integer(8));
9.          list.add(new Integer(5));
10.          list.add(new Integer(1));
11.          Iterator i = list.iterator();
12.          Collections.reverse(list);
13.          Collections.sort(list);
14.         while(i.hasNext())
15.             System.out.print(i.next() + " ");
16.      }
17.    }
```

a) 1 2 5 8
b) 2 1 8 5
c) 1 5 8 2
d) 2 8 5 1
View Answer
Answer: a
Explanation: Collections.sort(list) sorts the given list, the list was 2->8->5->1 after sorting it became 1->2->5->8.
Output:

```
$ javac Collection_iterators.java
$ java Collection_iterators
1 2 5 8
```

48. Which of these keywords are used for the block to be examined for exceptions?
a) check
b) throw
c) catch
d) try
View Answer
Answer: d
Explanation: try is used for the block that needs to checked for exception.

49. What will be the output of the following Java code?

```
1.     class multithreaded_programing
2.     {
3.         public static void main(String args[])
4.         {
5.             Thread t = Thread.currentThread();
6.             t.setName("New Thread");
7.             System.out.println(t);
```

```
8.        }
9.      }
```

a) Thread[main,5,main]
b) Thread[New Thread,5,main]
c) Thread[5,main]
d) Thread[New Thread,5]
View Answer
Answer: b
Explanation: None.
Output:

```
$ javac multithreaded_programing.java
$ java multithreaded_programing
Thread[New Thread,5,main]
```

50. Which one of the following is not an access modifier?
a) Protected
b) Void
c) Public
d) Private
View Answer
Answer: b
Explanation: Public, private, protected and default are the access modifiers.

51. What will be the output of the following Java program?

```
1.    class output
2.    {
3.        public static void main(String args[])
4.        {
5.            StringBuffer s1 = new StringBuffer("Hello");
6.            StringBuffer s2 = s1.reverse();
7.            System.out.println(s2);
8.        }
9.    }
```

a) olleH
b) olleHHello
c) Hello
d) HelloolleH
View Answer
Answer: a
Explanation: reverse() method reverses all characters. It returns the reversed object
on which it was called.
Output:

```
$ javac output.java
```

```
$ java output
olleH
```

52. What is the numerical range of a char data type in Java?
a) 0 to 256
b) -128 to 127
c) 0 to 65535
d) 0 to 32767
View Answer
Answer: c
Explanation: Char occupies 16-bit in memory, so it supports $2^{16}$ i:e from 0 to 65535.

53. What will be the output of the following Java code?

```
1.    class newthread extends Thread
2.    {
3. Thread t;
4. newthread()
5.        {
6.      t1 = new Thread(this,"Thread_1");
7.      t2 = new Thread(this,"Thread_2");
8.      t1.start();
9.      t2.start();
10.       }
11.       public void run()
12.       {
13.           t2.setPriority(Thread.MAX_PRIORITY);
14.           System.out.print(t1.equals(t2));
15.       }
16.    }
17.    class multithreaded_programing
18.    {
19.       public static void main(String args[])
20.       {
21.           new newthread();
22.       }
23.    }
```

a) truetrue
b) falsefalse
c) true
d) false
View Answer
Answer: b
Explanation: This program was previously done by using Runnable interface, here we have used Thread class. This shows both the method are equivalent, we can use

any of them to create a thread.
Output:

```
$ javac multithreaded_programing.java
$ java multithreaded_programing
falsefalse
```

54. Which class provides system independent server side implementation?
a) Server
b) ServerReader
c) Socket
d) ServerSocket
View Answer

Answer: d

Explanation: ServerSocket is a java.net class which provides system independent implementation of server side socket connection.

55. What will be the output of the following Java code?

```
1.    class overload
2.    {
3.          int x;
4.  double y;
5.          void add(int a , int b)
6.          {
7.              x = a + b;
8.          }
9.          void add(double c , double d)
10.          {
11.              y = c + d;
12.          }
13.          overload()
14.          {
15.              this.x = 0;
16.              this.y = 0;
17.          }
18.      }
19.    class Overload_methods
20.      {
21.          public static void main(String args[])
22.          {
23.              overload obj = new overload();
24.              int a = 2;
25.              double b = 3.2;
26.              obj.add(a, a);
27.              obj.add(b, b);
28.              System.out.println(obj.x + " " + obj.y);
```

```
29.        }
30.    }
```

a) 6.4 6.4
b) 6 6
c) 4 6.4
d) 6.4 6

Answer: c

Explanation: For obj.add(a,a); ,the function in line number 4 gets executed and value of x is 4. For the next function call, the function in line number 7 gets executed and value of y is 6.4

output:

```
$ javac Overload_methods.java
$ java Overload_methods
4 6.4
```

56. Which of the following is true about servlets?
a) Servlets can use the full functionality of the Java class libraries
b) Servlets execute within the address space of web server, platform independent and uses the functionality of java class libraries
c) Servlets execute within the address space of web server
d) Servlets are platform-independent because they are written in java

Answer: b

Explanation: Servlets execute within the address space of a web server. Since it is written in java it is platform independent. The full functionality is available through libraries.

57. What will be the output of the following Java program?

```
1.    class string_class
2.    {
3.        public static void main(String args[])
4.        {
5.            String obj = "I LIKE JAVA";
6.            System.out.println(obj.length());
7.        }
8.    }
```

a) 11
b) 12
c) 10
d) 9

Answer: a
Explanation: None.
output:

```
$ javac string_class.java
$ java string_class
11
```

**Cha**

**Q1.** What will be the output of the below code?

```
class ListExample{
    public static void main(String[] args
    {
     List<String> list = new ArrayList<>();
     list.add("I");
     list.add("Love");
     list.add("Java");
     list.add("Language");
     Iterator<Object> iter = list.iterator();
     while (iter.hasNext())
       System.out.print (iter.next().toString() + " ");
     System.out.println();
    }
}
```

Assumption: All classes, interfaces, and necessary methods are available.

A. I Love Java Language

B. Error: Incompatible types: String cannot be converted to Object

C. Error: iterator cannot be created for Object

D. Error: to string() cannot be applied on a string object

**Answer:** Option B

**Explanation:** We can not create an iterator of type Object for a list of type String. This will leads to an error Incompatible types: String cannot be converted to Object.

**Q2.** What is the output of the following code snippet?

```
class Bill{
   int itemPrice;
   public Bill (int itemPrice) { this.itemPrice = itemPrice;}
   void display() {
      int itemPrice = 20;
      System.out.println(itemPrice);
   }
}
class Demo {
    public static void main(String[] args) {
      Bill billobj = new Bill (10);
      System.out.println (billobj.itemPrice);
       billobj.display();
   }
}
```

A. 10

0

B. 10

20

C. 10

10

D. Error in the class as there is no default constructor defined

**Answer:** Option B

**Explanation:** When we are creating the object(billobj) for the class Bill the constructor will initialize the billobj.itemPrice as 10 and the same is printed. But when we are calling the function display() the variable itemPrice will be created and it will be treated as a local variable. Hence the output will be 20.

**Q3.** Consider the Binary Search code given below:

```
public static int search(int arrayofElements[], int low, int high, int elementToBeSearched)
{
  if (low <= high)
  {
   int mid = (low + high) / 2;
   if (arrayofElements[mid] == elementToBeSearched)
     return mid;
    if (arrayofElements[mid] < elementToBeSearched)
     return search(arrayofElements, mid + l, high, elementToBeSearched);
   return search(arrayOfElements, low, mid - l, elementToBesearched);
  }
  return -1;
}
```

Consider the arrayOfElements having 6 elements with low as 0 and high as 5. The elements of the array are as follows.

5 6 9 12 15 29

Find the number of iterations when using binary search if the elementToBeSearched is 6?

A. 1

B. 2

C. 3

D. 4

**Answer:** Option C

**Explanation:**

In the first Iteration, low is 0, and high is 5. The mid-value will be 2. arrayOfElements[2] is 9.

Since 9 > 6 the statement search(arrayOfElements, low, mid - l, elementToBesearched) will get executed.

In the second iteration, low is 0, and high is 1. The mid-value will be 0. arrayOfElements[0] is 5.

Since 5 < 6 the statement search(arrayofElements, mid + l, high, elementToBeSearched) will get executed.

In the third iteration, low is 1, and high is 1. The mid-value will be 1. arrayOfElements[1] is 6.

Since 6 == 6 the mid-value will be returned and the program execution stops.

So, It takes 3 iterations to find the index position of 6.

**Q4.** Consider the code given below:

```
class Student {
  private int studentId;
  private String studentName;
  Student (int studentId, String studentName) {
    this.studentId = studentId;
    this.studentName = studentName;
  }
}
class College {
  private Student student;
  private int basicFees;
  College (Student student, int basicFees) {
    this.student = student;
    this.basicFees = basicFees;
  }
}
```

Identify the relationship between Student and College classes.

A. Aggregation

B. Association

C. Inheritance

D. The two classes are not related

**Answer:** Option A

**Explanation:** The class College definitely required object Student so that it works perfectly. Class Student is independent of class College. Class College is dependent of Student this type of relationship is defined as Aggregation.

**Q5.** Consider the code given below.

Identify the code that needs to be filled in Line 1, 2, and 3 respectively such that:

• The student id is auto-generated starting from 501 in steps of 1

• The method 'getNoOfStudent' returns the total number of students enrolled at any given point.

```
class Student{
  private int studentId;
  private String studentName;
  private int yearofEnrollment;
  public static int counter;
  static {
    //Line 1
  }
  public Student (String name, int yearOfEnrollment) {
```

```
    this.studentName=name;
    this.yearOfEnrollment=yearofEnrollment;
        // Line 2
  }
  public static int getNoOfStudent () {
        // Line 3
  }
}
```

A. Line 1: Student.counter=501;

Line 2: this.studentid=Student.counter++;

Line 3: return (Student.counter-500);


B. Line 1: Student.counter=501;

Line 2: this.studentid=++Student.counter;

Line 3: return (Student.counter-501);


C. Line 1: Student.counter=500;

Line 2: this.studentId=Student.counter++;

Line 3: return (Student.counter-500);


D. Line 1: Student.counter=500;

Line 2: this.studentid=++Student.counter;

Line 3: return (Student.counter-500);

**Answer:** Option D

**Explanation:** To get the desired output we need to execute the statements in the following order

Line 1: Student.counter=500;

Line 2: this.studentid=++Student.counter;

Line 3: return (Student.counter-500);

**Q6.** Consider the code snippet given below:

```
class Customer {
  public int custId;
  public String custName;
}
public class Tester {
  public static void main(String args[]) {
    Customer obj = new Customer();
    Customer objone = new Customer();
    Customer objTwo;
    Customer objThree = obj;
  }
}
```

How many object and reference variables of class Customer will be created?

A. 3 objects and 1 reference variable

B. 2 objects and 4 reference variables

C. 4 objects and 4 reference variables

D. 2 objects and 3 reference variables

**Answer:** Option D

**Explanation:**

Customer obj = new Customer(); Here an object is created and its reference is given to obj.

Customer objone = new Customer(); Here also an object is created and its reference is given to objone

Customer objTwo; Here a variable is created. It will neither be considered object nor reference. It will be just treated as a local variable.

Customer objThree = obj; The reference of obj is stored in objThree.

Objects: obj, objone.

Reference variable: obj. objone, objThree

**Q7.** Consider the code given below:

```
class ClassA{
  void firstMethod() {
    System.out.println("Johnny Johnny..., ");
  }
  void secondMethod() {
```

```java
      System.out.println("Yes Papa. ");
  }
  void thirdMethod() {
    System.out.println("Eating Sugar..., ");
  }
}
class ClassB extends ClassA{
  void secondMethod(){
        super.firstMethod();
        super. secondMethod();
        super.thirdMethod();
        System.out.println("No Papa. ");
  }
  void thirdMethod() {
   System.out.println("Telling Lies..., ");
  }
}
class ClassC extends ClassB{
   void firstMethod() {
     System.out.println("Open your mouth..., Ha. Ha. Ha.");}
   void secondMethod() {
     System.out.println("No Papa. ");}
   void thirdMethod() {
     super.secondMethod();
     super. thirdMethod();
     this. secondMethod();
   }
        public static void main(String[] args) {
     ClassA objA= new ClassA();
     ClassB objB=new ClassB();
     ClassC objC=new ClassC();
     //Line 1
  }
}
```

Which among the below options if written at //Line 1, prints the rhyme correctly?

Choose two CORRECT options.

The expected output for your reference:


Johnny Johnny. . . ,

Yes Papa.

Eating Sugar. . .,

No Papa.

Telling Lies . . .,

No Papa.

Open your mouth. . ., Ha. Ha. Ha.



A. objA.firstMethod();

 objA.secondMethod();

 objA.thirdMethod();

 objC.firstMethod();

B. objC.thirdMethod();

 objC.firstMethod();

C. objB.secondMethod();

 objB.thirdMethod();

 objC.secondMethod();

 objC.firstMethod();

D. objA.firstMethod();

 objB.secondMethod();

objC.thirdMethod();

objC.firstMethod();

**Answer:** Option C

**Explanation:** To get the output in the expected order we need to call the functions in this order.

objB.secondMethod();

objB.thirdMethod();

objC.secondMethod();

objC.firstMethod();

**Q8.** Consider an input queue inQueue of Strings with the following elements:

inQueue(Front-> Rear): "Crib", "Bat", "Crab", "Carl", "Cat", "Row"

What will be the output of the below function if the above inQueue and the String "Par" are passed as input parameters?

```
public static ArrayDeque<String> compareStrings(Queue inQueue, String inString) {
  ArrayDeque<String> outStack=new ArrayDeque<String>(6);
  String tempString="Empty";
  while (!inQueue.isEmpty()) {
   if (! (inQueue.poll().length()==inString.length())) {
     outStack.push(inQueue. poll());
   }
   else{
          tempString=inQueue. poll();
     outStack.pop();
   }
  }
  outStack.push(tempString);
  return outStack;
}
```

Assumptions:

• Queue class, with the necessary methods, is available

• ArrayDeque class, with the necessary methods, is available

A. outStack(Top->Bottom): [Empty]

B. outStack(Top->Bottom): [Empty, Bat]

C. outStack(Top->Bottom): [Row, Bat]

D. outStack(Top->Bottom): [Row]

**Answer:** Option C

**Explanation:** Each time when you call the function poll() it will retrieve and remove the first element in Queue. After all the statements got executed the elements stored in the ArrayDeque outStack are Row and Bat.

**Q9.** An Employee Management System application is used to maintain information about employees in an organization. In the application, employee details are stored in the ascending order of the employee Ids. Which algorithmic design technique would best fit if an employee needs to be searched based on the employee Id.

A. Greedy Approach

B. Brute Force

C. Divide and Conquer

D. Dynamic Programming

**Answer:** Option C

**Explanation:** Since the elements are in sorted order we can use Binary Searching which follows the Divide and Conquer algorithm.

**Q10.** What is the output of the following code?

```java
class Base {
  private int fun() {
    return 0;
  }
   public int run() {
    return 3;
  }
}
class Derived extends Base {
  private int fun() {
    return 1;
  }
  public int run() {
    return fun();
  }
}
class Derivedl extends Derived {
   public int fun() {
    return 2;
  }
}
class Tester {
  public static void main(String[] args) {
    Base baseRef = new Derivedl();
    System.out.println (baseRef.run());
  }
}
```

A. 1

B. 2

C. 0

D. 3

**Answer:** Option A

**Explanation:** baseRef.run() is called and in inheritance always the children's class function will be called. In this program, the run() function in the Derived class is called. Inside the function, another function named fun() will be called since the fun() is defined in the same class the value 1 is returned as output.