1. What is java?

Answer: Java is an object-oriented programming language. It is

platform in-depended, and open source programming language. Java is case

sensitive. In addition, java is secured, high performed, multithreaded

programing language. In 1995, Java created James Gosling for Sun Micro

systems, a company now owned by Oracle.

2. What is JDK, JRE, JavaC, JVM, IDE ?

Answer: JDK: JDK means Java Development Kit, it is a software

development environment used for developing Java applications and applets.

JRE: JRE means Java Runtime Environment, which helps to run projects.

Javac: Javac means Java compiler, which compiles Java Codes.

JVM: JVM means Java Virtual Machine, which helps to execute class files

in order to get results of the program.

IDE: IDE means Integrated Development Environment (i.e. Netbeans /

Eclipse / Jdeveloper), which helps to build a program.

3. How can I create a class using notepad or Brackets and compile it,

then run my it?

Answer: Create Java Class in Notepad: First of all, open your notepad

or any text editor. Then write the following lines of code in you notepad

starting from public class. Save the file in your desktop. File name will be

exactly same as Class name. Here class name is My and the file extension has

to be java. So your full file name should be My.java

public class My{

public static void main(){ System.out.println("Hello World"); }}

public class My{public static void main(){ System.out.println("Hello World");}}

Compile The My Class: To compile My.java class, you need to

open cmd for Windows user and terminal for Mac user. Then navigate to

Desktop directory and write the command. javac My.java and press on

enter. Then you will see the command will compile the My.java (this file is

called source code) class and created a new compiled file called My.class

(this file is called bytecode).

Run the My Class: To run it, you just need to write the command and

press on enter: You will be able to see Hello World in your CMD or terminal

which is the output of your program.

4. What is Project in Java?

Answer: A project is a group of source files and the settings with

which you build, run and debug those source files.

5. What is Package in Java?

Answer: Package is a collection of related classes and interfaces.

6. What is a class?

Answer: A class can be defined as a collection of objects. It is the

blueprint or template that describes the state and behavior of an object.

7. What is a variable?

Answer: Variable is the name of the memory location.

Variables are containers for storing data values.

8. What is a method?

Answer: Method is a collection of statements which grouped together

to perform an operation. A method defines the behavior of the objects that are

created from the class.

9. What is the data type?

Answer: Data type specifies the size and type of values that can be

stored in an identifier (variable).

There are mainly two types of data in java:

a. Primitive data.

b. Reference data/ Non - primitive.

a. Primitive data: Primitive data is a set of data having predefined

characterize. Java developers build eight different data types that mostly we

used.

byte - 1 byte Stores whole numbers from -128 to 127

short - 2 bytes -32,768 to 32767

int - 4 bytes -2,147,483,648 to 2,147,483,647

long - 8 bytes -9,223,372,036,854,775,808 to 9,223,372

float - 4 bytes Stores fractional numbers from -3.4e-038 to 3.4 038.

Sufficient for storing 6 to 7 decimal digits.

double - 8 bytes 1.7e-038 to 1.7e 038. Enough for 15 decimal digits.

boolean - one byte store true or false values,

char - 2 bytes stores a single character/letter.

Note: When we declare the type for primitive data, the type name always

starts with a small letter. We do not need to memorize all the above numbers

for each of the data type, we have here just to understand the different of

each data type from other one.

b. Referenced Data: Any built-in class or interface that system

created or we created to declare a variable other than primitive eight types of

data, that are considered as a referenced data type like String, Integer is a

built-in class in java. (Starts with a capital letter). Example:

public class A{ //Here A is referenced data type

String name="OSA"; //Here String is build in referenced data type } }

10. What is an object in java

Answer: Object is an instance of a class. It is a piece of code that

represents the real-life entity. It has its own state, behavior, and identity. It

contains real values instead of variables. Without the class, the object does not exist.

11. Some advantage of using Java?

Answer: Java is one of the widely usable programming language.

Some of the advantage of Java are:

i. Object-Oriented

ii. Platform Independent

iii. Robust (Well error handling or exception handling ability)

iv. Secure

v. Support both web and desktop application

vi. Multi-threaded

12. Why java is platform-independent language?

Answer: Platform independence means that we can write and compile

Java code in one platform (eg Windows) and can execute the class in any

other supported platform such as Linux, Solaris etc because of JVM which

actually helps to do that...

13. What is the base class of all classes?

Answer: Object class is the base class of java.

14. What is the local and global variable?

Answer: Local variable: Local variables are declared in methods,

constructors, or blocks. In the below example, any is a local variable.

Global variable: The global variable declared outside the

method inside the class. The global variable also is known as the Instance

variable. In the bellow example, my is a global variable.

Class variable: Class variables is also known as static variables.

When we declare variable with the static keyword in a class, but

outside a method, constructor or a block. Then that variable is called class

variable/ Class Level Variable. Int he bellow example, data is a class

variable.

Constant variable: Constant variable is a variable in java

that is declared as static and final. Then only one copy of the variable exists

for all the instances of the class and the value can not be changed. In the

bellow example: CITY\_TAX is a constant variable.

15. What are the four fundamental concepts of java?

Answer: Four fundamental or core concepts of OOP (Object

Oriented Program) in Java are:

i. Abstraction

ii. Inheritance

iii. Encapsulation

iv. Polymorphism

16. Why Java is OOP language?

Answer: Object-Oriented Programming refers to a type of

programming in which programmers define the data type of a data structure

and the type of operations that can be applied to the data structure.

In Java, we can create our own object, and when we use the object, it behave

exactly same way without changing anything from the class. In addition, Java

support Abstraction, Inheritance, Encapsulation, and Polymorphism.

Therefore Java is object orientated programming language.

17. Why Java is not a pure object-oriented programming language?

Answer: Java uses primitive data types and cannot inherit more than

one class at a time.

18. What is Abstraction?

Answer: Abstraction is the process of hiding the implementation

details and showing only the functionality to the user.

For example, the TV remote is an object. Users are provided with the only

interface which is nothing but keys. Users only know which key to press for

what function. Users will not know what happens inside when we press the key.

There are two ways to achieve abstraction in java:

i. Abstract class (0 to 100%)

ii. Interface (Achieve 100% )

19. What is Inheritance in Java?

Answer: Inheritance in Java is a mechanism in which one object

acquires all the properties and behaviors of a parent object. It is an important

part of OOPs (Object Oriented programming system). Inheritance represents

the IS-A relationship which is also known as a parent-child relationship.

Simply we can say, when we get all the variables and methods from

parents class to child class by creating a parent-child relationship, then it is

called inheritance.

20. What is Encapsulation?

Answer: Encapsulation is a process of wrapping the variables and

methods together into a single unit. It is also hiding the data in order to make

it safe from any modification. That hidden data can be restricted to the

members of that class.

Levels are Public, Protected, Private, Internal, and Protected Internal.

In short,

Encapsulation is basically denying the access to the internal implementation

or knowledge about internals to the external world, while abstraction is

giving a generalized view of any implementation that helps the external

world to interact with it.

21. What is Polymorphism?

Answer: We can simply say poly means many and morph means forms,

together polymorphism means many forms. When we create object of a

child class by using the reference of parent class, then we can called

Polymorphism.

There are two kinds of Polymorphism.

i. Compile-time polymorphism. (Method overloading is compiletime polymorphism)

ii. Runtime polymorphism. (Method overriding is run time polymorphism).

22.What is Method Overloading?

Answer: When one class has two or more methods having the same

name but the number of parameters size, sequences, or type is different from

each other method then it is called method overloading. These methods are

called overloaded method.

23. What is method overriding?

Answer: If the subclass (child class) has the same method as declared in the

parent class, it is known as method overriding in Java.

In other words, If a subclass provides the specific implementation of the

method that has been declared by one of its parent class, it is known as

method overriding.

Rules for Java Method Overriding

1. The method must have the same name as in the parent class

2. The method must have the same parameter as in the parent class.

3. There must be an IS-A relationship (inheritance).

class Animal {

public void move() { System.out.println("Animals can move"); }}

class Dog extends Animal { public void move() {

System.out.println("Dogs can walk and run"); }

public void bark() { System.out.println("Dogs can bark"); }}

public class TestDog {

public static void main(String args[]) {

Animal a = new Animal(); // Animal reference and object

Animal b = new Dog(); // Animal reference but Dog object

a.move(); // runs the method in Animal class

b.move(); // runs the method in Dog class

b.bark(); }}

24. What is the interface?

Answer: An interface is a collection of abstract methods (only

abstract/unimplemented methods). Before using any abstract method, it need

to implements in a class, and only then the method can be used.

25. What are runtime exceptions?

Answer: Runtime exceptions are those exceptions that are not warned by

the compiler but it is thrown at runtime.

Ex: StackOverflowException, MemoryoutException,

ArithmaticException.

26. What are the difference between Declaration and Definition in Java?

Answer:

Declaration: If you just declare a class or method or variable without

mentioning anything about what that class or method or variable looks like

then it is called a declaration in Java.

Definition: If you define how a class or method or variable is implemented

then it is called definition in Java.

Example: When we create an interface or abstract class, we simply declare a

method but not define it.

27. What is Constructor?

Answer: A constructor is a special type of method that is used to initialize

the object. A constructor is a block of code that executes at the time of object

creation and it constructs an object. To construct an object means let’s say

you want to change the value of a reference then you can use a constructor.

Rules for constructor are:

a) The constructor name should be the same as the class name.

b) A constructor must have no return type not even void.

c) It is called automatically at the time of object creation.

d) Default constructor (no parameter), Parametrized constructor.

d) It can be overloaded, but cannot be overridden.

28. Difference between encapsulation and private variables?

Answer: Encapsulation is a term that is found in the Object-Oriented

paradigm and refers to keeping the data in private fields and modify it only

through methods.

Thus encapsulation may be seen as a way of achieving data hiding in objectoriented systems.

29. What is the difference between = and == sign?

Answer:

= will help to assign value in a variable.

== will help to compare two objects.

30. What is the % operator?

Answer: It is referred to as the remainder operator. It returns the

remainder of dividing the first.