

Questions &

Answers

1. What is JAVA?

- Java is a simple Programming language
- Easy to Run and Debug
- We can run multiple application at a time
- It helps to create reusable codes.

2. Why we go for Java?

- Its a platform independent and Open Source
- We can run multiple application at a time

3. What are the main features of Java?

- Platform Independent
- More Secure
- portable
- Open Source
- Multi-threading

4. What is platform Independent?

→ During compilation, the java Program converts into byte code

→ using byte code, we can ^{run} the application to any platform such as windows, Mac, Linux etc..

5) What is Open Source?

- A program in which source code is available to the general public for use
- and modification from its original design at free of cost

6) Multithreading?

- Java Supports Multithreading
- It enables a program to perform several task simultaneously

7). More Secure?

- It Provides Virtual firewall between the application and computer.

8). Portable?

- Write once run anywhere
- Java code written in one machine and we can run on another machine.

9) What are the tools used to execute Java?

- Notepad
- Net bean
- Eclipse
- J Developer (Oracle)
- RAD (IBM)

10) What are the difference b/w JDK, JVM and JRE?

$$\boxed{\text{JDK} = \text{JRE} + \text{JVM}}$$

JDK:

→ Java Development Kit

→ If we run any application ^{we need}; JDK have to be installed

→ Mostly v1.8 is used now

JRE:

→ Java Runtime Environment

→ It is a predefined class files (contain library files)

JVM:

→ Java Virtual Machine.

→ It is mainly used to allocate the memory and compiling

11). What is meant by OOPS?

→ Object Oriented Programming Structure

→ It is a method of implementation in which programs are organized as Objects, Collection of Objects, Methods, class

12) What are the coding standard used in Java?

Pascal Notation: Each word of a first letter should be in Capital

Camel Notation: First word should be small after then every word of first letter should be in Capital

13. What is meant by class, Method and Object?

Class:

→ Collection of methods (or) collection of objects

Method:

→ A set of action to be performed

Object:

→ Object is the runtime memory allocation

→ By using object, we can call any methods.

14. What are the datatypes used in Java?

- | | | |
|---------|----------|-----------|
| → byte | → float | → String |
| → Short | → double | → char |
| → Int | | → boolean |
| → long | | |

15. What is byte size and formula?

→ 1 byte = 8 bits

→ Range formula:

$$(-2^{(n-1)}) \text{ to } (+2^{(n-1)} - 1)$$

16. What is meant by Wrapper class?

→ Classes of datatypes is called wrapper class.

17. What is the main use of Scanner class?

→ for getting the input from the user at the run time.

18. What are the methods available in Scanner class?

- * nextByte();
- * nextInt();
- * nextShort();
- * nextLong();
- * nextFloat();
- * nextDouble();
- * next(); [It ignores the Space]
- * nextLine(); [It accepts the Space]
- * nextBoolean();

19. What is mean by Inheritance?

→ We can access one class property into another class using "extends" keyword (Reusable Purpose)

→ It avoids memory wastage.

20. What are the ways to access the methods / data from another class?

We can access the another class methods either

→ Creating the Object. (or)

→ using "extends" keyword.

21. What is mean by Polymorphism?

One task is completed in many ways (or) more than one forms

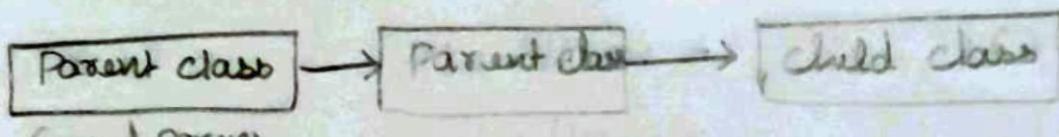
- * Poly - Many
- * Morphism - forms

Single Inheritance



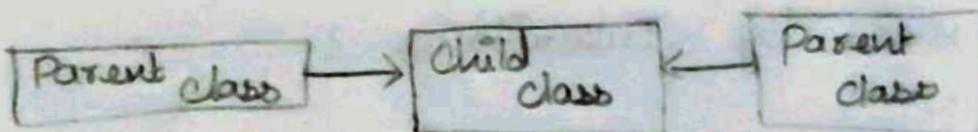
One parent class is directly supported by one child class using extend keyword

Multi-level Inheritance



* free level structure

Multiple Inheritance



22. Types of Polymorphism

Method Overloading:

- Class - same
- Method - same
- Argument - Differ (based on data type, order, count)

In a same class, method name is same and the argument is different.

Method overriding:

- Class - different (using extends)
- Method same
- Argument same

In a different class, method name is same and the argument name is same.

23. What are the types of Inheritance?

- * Single
- * Multilevel
- * Multiple
- * Hybrid
- * Hierarchical

24. What are the differences b/w Multiple & Multilevel Inheritance?

Multiple Inheritance:

- Combination of more than one parent class supports a child class parallel at a same time

- It throws Syntax error and Priority Problem.

Multilevel Inheritance

- Combination of more than one parent class supports the child class by using tree level structure.

→ It works in Java.

25. Why multiple inheritance is not supported in Java?

- It will get priority problem and throws Syntax error.

(i.e). If both Parent class having same method name, it will get priority problem.

→ It can be achieved through Interface.

26. What is Access Specifier?

It decides the level of access to the Variable, method and class.

27. Types of Access Specifiers:

- Public
- Private
- Protected
- Default

* Public :

Global level access

(Same package (obj + extends))

(Diff Package (obj + extends))

* Protected :

(Same Package (obj + extends))

(Diff Package (extends))

* Private :

Class level access.

* Default:

Inside Package (obj + extends)

28 What is meant by Abstraction?

→ Hiding the implementation Part and showing functionality to the user.

→ Its totally based on template Purpose

29 Types of Abstraction

* Partially Abstraction (Abstract)

* Fully Abstraction (Interface)

30 Can we Create object for Abstract class?

No

31 What is mean by Interface?

→ It will Support only abstract method, won't support non-abstract method.

→ In Interface 'Public abstract' is default. We no need to mention it

→ It using implements keyword.

32 What is the difference b/w Abstract and Interface?

Abstract	Interface
* It is Partially abstraction	* It is fully abstraction
* It Support both abstract and non abstract method.	* It Support only abstract method.
* It using "Extends" keyword.	* It using "implements" keyword
* Here "Public abstract" have to be mentioned	* "Public abstract" is default, so no need to mention it
We can use whatever access specifier we want.	We can only use "public" specifier

33. What is meant by constructor?

- Class name and constructor name must be same
- It doesn't have any return type
- We don't want to call constructor which is creating object itself.
- It will automatically invoke the default constructor
- It will support in method overloading and won't support in method overriding

34. Types of constructor:

- * Parameterized constructor
- * non-Parameterized constructor (default constructor)

35. Do constructors have any return type?

No.

36. Write the syntax for creating constructor,

Access Specifier Classname() {
}

37. What are the rules for defining a constructor?

- Classname and constructor name must be same
- It doesn't have any return type.

38. Can we declare constructor a 'private'?

Yes.

39 Why return type is not allowed for constructors?

- Constructor is not directly called by your code. It is called by memory allocation and object initialization in the runtime.
- Its return value is opaque to the user, so user can't mention it.

40 What is constructor chain and how can be achieved in Java?

- The process of calling one constructor from another constructor with respect to current object creation is called as constructor chain.
- By using this() we can achieve constructor chain.

41 What are the difference b/w this() and Super()?

this()

Super()

this() is used to call class level constructor

Super() is used to call the constructor in the Parent class

42 What is the Super class of Java?

Object

43 What are the types of Variable

- Local Variable
- Global Variable
- Static Variable

4. Define heap memory

→ Objects are stored in the heap memory

5. What is meant by wrapper class and uses?

→ Classes of datatypes is called wrapper class

→ It used to convert any datatype into objects

4b. What is meant by String?

→ Collections of characters or word enclosed with double quotes is called String.

4c. Difference between Literal and Non-literal String,

Literal String

It share the memory if
same value.

(Duplicate value)

Non-literal String

It's create a new memory
every time even if its
duplicate value (duplicate value)

4d. What is Array?

→ Collection of similar data types

→ The values are stored based on index

→ The index will start from 0 to n-1

4e. Disadvantages of Array ~~list~~:

→ Fixed memory

→ Memory wastage

→ It won't support dissimilar datatypes

50. Advantages of Array:

In a single variable, we can store multiple values.

51. Can we change the memory size of array after initialization?

→ No, we can't change the memory size of array after initialization.

52. Write a code to initialize array?

- * Datatype refname[] = new Datatype [size];
- * Datatype refname = {};

53. What is Collection?

→ It won't support dissimilar datatypes.

→ For a runtime memory allocation, no memory wastage is there like array.

→ To overcome the wastage in array, collection is used.

54. Describe the Collection time hierarchy and Interface

Main Interfaces:

- * List
- * Set
- * Map.

Hierarchy:

List

ArrayList

LinkedList

Vector

Set

* HashSet

* Linked HashSet

* TreeSet

Map

* HashMap

* LinkedHashMap

* TreeMap

* Hashtable

* ConcurrentHashMap

55 Difference b/w Set & List ?

List

Set

- It is a index based one → It is a value based one
- It allows duplicates → It won't allow duplicates

56 Difference b/w ArrayList and LinkedList ?

ArrayList

LinkedList

- In arrayList searching is a best one → Searching is difficult
- insertion and deletion is difficult → insertion and deletion is easy.

51 Difference b/w ArrayList and Vector ?

ArrayList

Vector

- Asynchronous (parallel)
- It is not a thread safe.

→ Multiple thread can access the code at a same time

→ Synchronize (one by one)

→ Thread safe

only one thread can access the code at a time

58. Diff between HashSet, TreeSet and Linked hash set?

HashSet

It prints in Random Order

TreeSet

It prints in ascending order

Linked HashSet

It prints in insertion Order

59. Map?

- It is a key and value Pair.
- Here (key + value) is one entry
- Key ignores duplicate value and value allows the duplicate.

60. How to Iterate Map?

- We can iterate map by using entrySet() Method
- Its return type is Set < >

61. Difference b/w Normal loop and Enhanced loop