Java Interview Questions & Answers - 1

Core Java

Introduction

What does this presentation Include?

These set of slides include basic Java Interview Questions and answers which can be very helpful for a Software Engineer to attend an interview. I also have included a set of bit complex Java Questions in '**Java Interview Questions & Answers - 2**' presentation.

1. What is a class and an object in OOP?

- An object is a real world entity which has a state and a behavior.
- In OOP object refers to a particular instance of a class.
- A Class is a Collection of Objects. It is a blue print which can be used to create objects

2. What are the basic Fundamentals of OOP?

- Abstraction,
- Polymorphism
- Inheritance
- Encapsulation

3. Explain Abstraction

Through the process of abstraction, a programmer hides all but the relevant data about an object in order to reduce complexity and increase efficiency.

OR

Hiding all the internal details and showing functionality is called abstraction.

4. Explain Polymorphism and state two ways to implement polymorphism

Polymorphism is the ability of an object to take on many forms.
OR
One task performed in different ways.

Ways to implement it…

- Method Overloading
- Method Overriding
- When parent class reference is used to refer to a child class object

5. Explain Encapsulation and state how encapsulation can be applied in a java class

Binding and wrapping code and data together as a single unit is called as encapsulation

How to apply in a java class?

Having all the fields/properties of the class private and implementing public getters and setters to access them

6. Explain Inheritance and State two advantages of using Inheritance

One object acquires properties and behaviors of a parent object

- Provides code reusability
- Used to achieve runtime polymorphism
- Code enhancement- built on what you have, without altering the present funct ionality.

7. What are the main data types available in java? State all the primitive data types

Primitive data types and reference/object data types

There are eight primitive data types in java

- short
- byte
- int
- long
- double
- float
- char
- boolean

8. What is static keyword mean in java?

Static says that it always operates within the class (belongs to the class) not in specific objects.

9.What do you mean by operator precedence in java?

Java has well-defined rules for specifying the order in which the operators in an expression are evaluated when the expression has several operators.
For example, multiplication and division have a higher precedence than addition and subtraction.

10. Can we override and overload main method of a java application

We can overload main method by changing the no of arguments or the type of the arguments but we cannot override main method.

11. State three features of a constructor in java

- Constructor name must be as same as the class name
- Must not have an explicit return type
- Constructor need not to be invoked explicitly
- Java compiler provides a default constructor if you haven't implemented any constructors explicitly

12. What is constructor overloading?

A class having more than one constructor having changed each of its parameters changed (no of parameters or type of parameters)

13. How can you call one constructor from an other constructor

Using this() keyword

e.g:-

```
Employee(int a){
}

Employee(int a String b){
this(a);
}
```

14. State two ways to copy objects in java

Copy by constructor and using clone() method

15. What are the access modifiers in java?

- private
- Default
- protected
- public

16. What happens when fields of a class are marked as protected?

Those fields can only be accessed from its subclasses

17. What is method overloading and how can it be implemented?

If a class have multiple methods by same name but different parameters it is known as method overloading

Can implement his by changing the types of the parameters or the number of the parameters

18. Can method overloading be implemented by changing the return type of a method? If not why?

No. It gives a compile time error because there will be an ambiguity when calling the methods

19. State three places where the ‘super’ key word is used in java

- Super is used to refer the immediate parent class instance variable
  e.g:- super.length
- Super() is used to invoke the immediate parent class constructor
- Super is used to invoke immediate parent class method e.g:- super.calculate()

20. What is runtime polymorphism?

Since in method overriding both the super class and the subclass methods have the same method, compiler doesn't figure out which method to be invoked during compile time. In this case JVM decides which method to call during runtime. This is called as runtime polymorphism

21. What is method overriding in java?

If subclass provides the specific implementation of a method that has been provi
ded in the parent class, it is known as method overriding.

22. Define rules of method overriding?

- Method must have the same name of the super class method
- Method must have the same parameter as in the parent class
- There must be an IS-A relationship

23. Can we override methods by changing the return type?

Yes. We can override methods by changing their return type only if their return type is a sub type.

24. Can we override static methods in java?

No. Static methods cannot be overridden thus the main method if a java program also cannot be overridden

25. State two differences between HashMap and HashTable

- HashMap permits one null key and any number of null values in it whereas HashTable doesn't allow null values
- HashTable is Synchronized (two thread cannot access the HashTable at the same time) whereas HashMap is not synchronized
- HashMap is not thread safe but HashTable is thread safe
- HashMap are much faster than HashTable

26. What is an Exception and what is Exception handling

Exception is an unexpected behavior of a program which could possibly quit the program during runtime unexpectedly.

By handling the exceptions we allow the applications to run its normal flow.

27. State two Checked Exceptions

- IOException
- SQLEXception

28. State two unchecked exceptions (runtime exceptions)

- ArithmeticException
- NumberformatException
- NullPointerException
- ArrayindexOutOfBoundsException