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1) Why we need to use OOP ? Some major OOP languages ?

Object oriented programming aims to express real world entities in programming. This real world entities are inheritance, hiding, polymorphism etc. We need to use OOP because of the rapid developments in the field of informatics. Because OOP provides modularity and reusability in code. Also when OOP is used right, a structure which is not spaghetti code and grouping is good emerges. Some major OOP languages are Java, Python, C++.

2) Interface vs Abstract class ?

A class can implement several interfaces but can extends only one abstract class. Abstract class can have final, non-final, static and non static variables. But interface has only static and final variables.

3) Why wee need equals and hashcode ? When to override ?

We use equals() method to compares contents of two objects. If the contents of objects are the same, it returns true. If it is not the same, it return false. Hashcode is an integer value associated with every object in Java. Hashcode method returns the integer hashcode value of the given object. If two objects are the same for equals method, hashcode methods provides the same integer result. This two methods should override to achieve exact equilty mechanism.

4) Diamon problem in Java ? How to fix it?

Diamond problem is about multiple inheritance. Java basically doesn't support multiple inheritance. But we fix this problem by using interfaces.

5) Why we need Garbagge Collector ? How does it run ?

Gabage Collector provide us to automatically manage memory. It detects using objects and delete unreferenced objects by looking heap memory. When it delete unreferenced objects, free area occur in memory. Garbage collector works in Java Virtual Machine.

6) Java 'static' keyword usage ?

We basically create a object by using "new" keyword. If we use "static" keyword for methods of a class, we don't need "new" keyword. We directly access methods from class name.
Static keyword create intance of object one time and other users can use it. When we define intance of object with static, it don't remove until application reset. Therefore other users can use it.
We can apply static keyword with variables, methods, blocks and inner classes.

7) Immutability means ? Where, How and Why to use it ?

Immutable means unchangeable. In Java we can create immutable objects. When we create an immutable object once, we cannot change its content. We can use final keyword to create an immutable object. İmmutable object are thread-safe. Because of this propery it is useful for multi-thread enviroment.

8) Composition and Aggregation means and differences ?

When we create a class, we use this class in another class. This can explain as composition and help to provide reusablitiy. Composition contains has-a relationship. Has-a relationship means that we create an object of another class in a class, and then we use this object property. For example: a house consist of kitchen, bedroom, bathroom. If we consider these as classes, we can use objects of kitchens class in home class. Aggreation means create a big object after combine some objects. Difference between aggregation and composition can explain that we consider car object and wheel object. Aggregation is wheel object can think independent of car object. Composition is car object cannot think without wheel objects.

9) Cohesion and Coupling means and differences ?

Cohesion means that within a module relevant units must be accompanied by related units. Coupling means that it examine relationship among different modules. For a quality software requires high cohesion and loose coupling.

10) Heap and Stack means and differences ?

Stack and heap are logic structures in RAM. Stack holds value type, heap holds referance type. Value types are int, double, char etc. and holds data. Referance types are class, array and holds adress of data at memory.

11) Exception means ? Type of Exceptions ?

An exception is a problem which occurs during aexecution of a program. If this problem occur, compiler creates an exception object. Exception object has information about error. Java exception can categorize two way: built-in exceptions and user-defined exceptions. Some of build in exceptions are ClassNotFoundException, FileNotFoundException, SQLException, ArrayIndexOutOfBoundsException.

12) How to summarize ‘clean code’ as short as possible ?

When a developer writes code, other developers can understand and develop this code easily. For this, code should be readability, changeability, extensibility, maintainability.

13) What is the method of hiding in Java ?

We assume that super class has a static method. If a subclass defines a static method and this static method is the same signature with static method in super classs, the method in the subclass hides the method in super class.

14) What is the difference between abstraction and polymorphism in Java ?

Abstraction is the concept of hiding details and show essential feautres. Polymorphism express the same behavior having different forms.