Interview Que Set 1

1.what is the Difference between C++ and java ?

Sr.No	C++	Java
1	Platform dependent	Platform independent
2	Support multiple inheritance	Does not support multiple inheritance
3	support structures and unions	Does not support structures and unions
4	supports call by value & call by reference	supports only call by value
5	mainly used for system programming	mainly used for application programming. used for web based,mobile application, window application

2.What are the key features of java?

Features :

1. Simple : easy to learn,remove complicated concepts like pointers, operation overloading, automatic GC
2. Object-Oriented : totally based on the OOPS concepts
3. Portable :Java is portable because it facilitates you to carry the Java bytecode to any platform. It doesn't require any implementation.
4. Platform independent :Java is a write once, run anywhere language because of byte code
5. Secured :**No explicit pointer ,Java Programs run inside a virtual machine sandbox**
6. Robust :There are exception handling and the type checking mechanism in Java

3.What is JVM ?

JVM : Java Virtual Machine

used to : load,verify,execute,provide runtime environment

It is a specification that provides runtime environment in which java bytecode can be executed.

Classloaders : loads all class files

Types of classloaders : Bootstrap , extension,system

4.what is oops?why it called as object oriented?

OOPS means Object oriented Programmimg.
Object are real world entities
Object oriented programming means methodology to design a program in terms of classes and objects
OOPS based on following features:
Abstraction, Encapsulation, Inheritance, Polymorphism
Object oriented means it fully based on objects that consist of data and code

5.what is Multiple inheritance?Explain with real time and in a programmic way?

Multiple Inheritance: It is achieved by extending more than one class .
Means one child class have more than one parent
Java does not support multiple inheritance as it produce unambiguity at runtime
Eg. =>
real time : child can inherit properties of father and mother.
programmic way :

```
class fly{
////
}
class eat{
///
}
class Birds extends fly,eat{
////
}
```

6.Difference between abstract class and interface

Sr.No	Abstract class	Interface
1	achieve 0 to 100 % abstraction	Platform independent
2	can have abstract and non abstract methods	contains only abstract methods
3	does not support multiple inheritance	support multiple inheritance
4	The **abstract keyword** is used to declare abstract class.	The **interface keyword** is used to declare interface.
5	An **abstract class** can be extended using keyword	An **interface** can be implemented using

	"extends".	keyword "implements".

7.What is Encapsulation?Explain with real time example?

Encapsulation

- Binding (or wrapping) code and data together into a single unit
- we can achieve encapsulation by making data members private and generating getter setter methods
- eg real time : chocalate
- eg. Java bean is the fully encapsulated class because all the data members are private here

8.what is Polymorphism? and inheritance?

Polymorphism :

- we can perform a single action in different ways
- Two types of Polymorphism in java
  - compile time(static)(Early binding) eg. (Overloading)
  - runtime(dynamic)(Late Binding) eg.(Overriding) => Runtime polymorphism can't be achieved by data members.

Inheritance :

one object acquires all the properties and behaviors of a parent object.

- For Method Overriding (so runtime polymorphism can be achieved).
- For Code Reusability.
- extends keyword
- Types

  1) Multilevel 2) single 3) hierarchical 4)hybrid

9.What is Method Overriding and Method Overloading ?

Explain with program?

Overloading :==

- If a class has multiple methods having same name but different in parameters, it is known as **Method Overloading**.
- There are two ways to overload the method in java
- By changing number of arguments
- By changing the data type
- **In Java, Method Overloading is not possible by changing the return type of the method only.**

```
Eg :public class Bank {
    String bankName;
    String bankBranch;
    String address;
    protected String bankName;
    protected   String bankBranch;
    private String address;
    public void display(String bn) {
        System.out.println("Bank Name :"+bankName);
    }
```

```
    }
    public void display(int bn) {
        System.out.println("Bank Interest:"+bn);
    }
}
```

Overriding :==

Usage of Java Method Overriding

- Method overriding is used to provide the specific implementation of a method which is already provided by its superclass.
- Method overriding is used for runtime polymorphism

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).

Eg :

```
public class Bank {
    String bankName;
    String bankBranch;
    String address;
    protected String bankName;
    protected   String bankBranch;
    private String address;
    public Bank(String bn, String bb, String addr) {
            this.bankName=bn;
            this.bankBranch=bb;
            this.address=addr;
    }
    public void display() {
        System.out.println("Bank Name :"+bankName);
        System.out.println("Bank Branch :"+bankBranch);
        System.out.println("Bank Address "+address);
    }
}
public class Customer extends Bank {
    private String firstName;
    private String lastName;
    private String mobNo;
 public Customer(String fn, String ln, String mb, String bn, String bb, String addr) {
                    super(bn, bb, addr);
                    this.firstName=fn;
```

```
                this.lastName=ln;
                this.mobNo=mb;
        }
        public void display()
        {
                System.out.println("Customer Name :"+firstName);
                System.out.println("Customer Sur Name :"+lastName);
                System.out.println("Customer Mob no :"+mobNo);
                super.display();
        }
}
```

10.what is collection?what's its need? if we are having array?

Collection : group of object represented as a single unit.

Collection framework provides classes and interfaces which provides different ready made methods for manipulating and accessing objects

11.diffrence between array and arraylist? any programmetical difference?

Sr No.	Array	ArrayList
1	static in nature	dynamic in nature
2	fixed size	growable in nature
3	store object and primitive	only store objects
4	Does not provide predefined methods	provide predefined methods
5	can be multi dimenstional	always single dimentional

12.Difference between list and arraylist

Sr No.	List	ArrayList
1	Interface	class
2	create list	create dynamic array
3	It extends the	mplements the List interface.

	collection framework.	
4	provide faster manipulation of objects.	provide slower manipulation of objects.

13.Explain Exception handling and how it is handled?

Exception Handling :=
Its means that intterupts normal flow of program.
Exception handling does not mean to repair but continue execution of rest of the program
It can be handled by keywords
try, catch, throw, throws, finally

14.What is garbage collection?

Garbage means unreferenced object
Garbage collection free unused memory automatically at runtime
used for memory efficient

The Garbage collector of JVM collects only those objects that are created by new keyword. So if you have created any object without new, you can use finalize method to perform cleanup processing (destroying remaining objects).

Neither finalization nor garbage collection is guaranteed.

15.Explain Public static void main()?

its a signature for main method in java
public is access modifier . which make it global
static it is a keyword used in java so that it can be instatiated without creating object
void indicate that it doesnot return any value
main indicates the starting point of the program

16.write a program to concat two arraylist if we are having first arraylist of 5 students firstname and then second arraylist of having five student lastname.then how we can concat first student firstname and lastname and others also.

17.Write a program to reverse a String contents.

18.write a program to check anagram of string.

19.Do you Know any versioning tool?explain it?

We used git to control version of our project
It provides various commands to maintain project versions
Features

1. Allows developers to work simultaneously.
2. Does not allow overwriting each other's changes.
3. Maintains a history of every version.

20.what is RestApi?Have you used it in your project? and explain how you used it?