Chapter 1 -

1. What is java and explain feature of java?

🡪 Java is a platform independent, object oriented programming language.

**Features –**

Java has multiple features like as,

**A. object oriented:** java implement the all concept of OOP or Java Support to OOP concept so we can say java is object oriented language.

**B. platform independent:** if we think java code we can execute on any operating means if you develop application on windows and compile on window operating system then we can use execute or run on linux or unix or any other operating system with the help of byte code so we can it is platform independent.

**C. secured:** Java provide security to code using serialization technique or by providing some inbuilt libraries or some framework like as spring security etc

**D. multi-threaded:** Java provide API or classes provide implement the multi threading to us means we can execute the portion of single program or some part of program simultaneously in waiting of each other.

**E. dynamic:** Java provide facility to us to create object at program run time as well as delete the object memory at program run time dynamically with the help of garbage collections so we can say it is dynamic programming language.

1. Why java is platform independent language?

🡪 Java achieved platform independency by moving Machine language generation from compilation phase to execution phase by introducing bytecode is a native language of JVM and JVM it translate software that converts bytecodes into current client OS understandable machine language for executing java bytecodes.

1. What is byte code and importance of byte code?

🡪 Byte code is the intermediate between source codes and machine code and the important of byte code is nothing but to achieve a platform independency of an application means it can do the convert our source code into machine code.

1. What is difference between byte code and machine code?

🡪 Byte code is the intermediate between source codes to machine code it can be translate our source code to byte code it can be created with whenever we compile the program and machine code is nothing but it can be created with binary code like 0’s & 1’s it is nothing but machine level languages. It can be created whenever we can interpret the bytecodes to machine code.

1. What is diff between platform independency and cross platform?

🡪 Platform independency is nothing but whenever we can write & execute the program in one operating system so it can also execute other operating system as well with no modification is required. Cross-platform is the ability of software applications to operate on multiple operating system (OS) or hardware platforms with little or no modification.

1. What is OOP and explain depth?

🡪 OOP is nothing but object oriented programing it is a methodology of it can work on four pillars and seven features the pillars are nothing but inheritance, polymorphism, encapsulation & abstraction and the seven features are nothing but class, object, inheritance, data abstraction & encapsulation , polymorphism , dynamic binding and message passing.

1. What are the pillars of OOP?

🡪 The pillars of OOP are but inheritance, polymorphism, encapsulation & abstraction.

1. What is diff between semi object oriented and pure object oriented?

🡪 In semi-object-oriented programming, some features of OOP are present but not all. This often means that the language or paradigm may support some aspects of OOP, such as objects, classes, and maybe inheritance, but it does not fully embrace all OOP principles or it may provide alternative ways of achieving them. The pure object oriented programming can supports all the programming feature as per the OOP standard.

1. What is JDK, JRE and JVM?

🡪 JDK is nothing but Java Development Kit we also known as JAVA\_HOME, JRE is nothing but Java Runtime Environment it can provide the runtime environment and JVM is nothing but Java Runtime Environment it is responsible for running java programs.

1. What is diff between JDK JRE and JVM?

🡪 **JDK:** The JDK, or Java Development Kit, is a software development kit that provides the tools needed to develop Java applications.

**JRE:** The JRE, or Java Runtime Environment, is a subset of the JDK that is necessary for running Java applications

**JVM:** The JVM, or Java Virtual Machine, is an abstract computing machine that provides a runtime environment for executing Java bytecode.

1. What is JVM and explain its architecture?
2. What is array and how many ways to declare array in java?
3. What is diff between C array and java array?
4. What is Jagged Array in java?
5. What is anonymous array in java?