**Q-1: what is programming language ?**

Ans:

A programming language is a formal system of rules and syntax that enables humans to communicate instructions to a computer in a way that it can understand and execute. It serves as an intermediary between human-readable code and the machine's binary instructions.

Programming languages allow programmers to create software applications, scripts, and algorithms by writing code using specific keywords, symbols, and structures. This code is then translated or compiled into machine-readable instructions that a computer's central processing unit (CPU) can execute.

**Q-2: why do we need a programming language ?**

**Ans:**

We need a programming language to tell computers what to do. Computers are machines that can only follow instructions that are given to them in a very specific way. Programming languages provide a way for us to communicate with computers in a way that they can understand.

**Q-3: what are the features of java ?**

Ans: **Object-oriented:** Java is an object-oriented programming language, which means that it models real-world entities as objects. Objects have properties and behaviors, and they can interact with each other.

**Platform-independent:** Java code is compiled into bytecode, which is a machine-independent format. This means that Java programs can run on any platform that has a Java Virtual Machine (JVM).

**Interpreted**: Java code is interpreted by the JVM, which means that it does not need to be compiled into native code for each platform. This makes Java programs more portable and efficient.

Q-4: **what is an object ?**

Ans: An entity that has state and behavior is known as an object e.g., chair, bike, marker, pen, table, car, etc. It can be physical or logical (tangible and intangible). The example of an intangible object is the banking system.

For Example, Pen is an object. Its name is Reynolds; color is white, known as its state. It is used to write, so writing is its behavior.

* An object is *a real-world entity*.
* An object is *a runtime entity*.
* The object is *an entity which has state and behavior*.
* The object is *an instance of a class*.

**Q-5: what is class ?**

**Ans:**  A class is a group of objects which have common properties. It is a template or blueprint from which objects are created. It is a logical entity. It can't be physical**.**

**A class in Java can contain:**

* Fields
* Methods
* Constructors
* Blocks
* Nested class and interface

**Q-6: explain about the main() method in java ?**

**Ans:** In Java, the main() method is a special method that serves as the entry point for the execution of a Java program. When you run a Java program, the Java Virtual Machine (JVM) looks for the main() method as the starting point to begin executing the code. This method is typically defined within a class and has a specific signature and syntax that the JVM expects.

Code :

public class MainExample {

public static void main(String[] args) {

// Code to be executed when the program runs

System.out.println("Hello, World!");

}

}