

BHASKAR KUMBHAR

1. What is Programming language ?
2. Why do we need a programming language ?
3. What are the features of Java ?
4. What is an Object ?
5. What is a class ?
6. Explain about the main () method in Java ?

1. A programming language is a formal language used to communicate instructions to a computer. It provides a set of rules and syntax that programmers use to write code that the computer can understand and execute.

2. We need a programming language because it serves as a tool for humans to interact with computers. Programming languages enable us to write software, develop applications, and instruct computers to perform specific tasks. They allow us to express complex algorithms, manipulate data, and build systems that solve various problems.

3. Java is a widely-used programming language known for its versatility and platform independence. Some of its key features include:

- Object-oriented: Java follows an object-oriented programming paradigm, enabling modular and reusable code through classes and objects.
- Platform independence: Java programs can run on any platform with a Java Virtual Machine (JVM), making it highly portable.
- Garbage collection: Java has automatic memory management, freeing developers from manual memory deallocation.
- Strong type checking: Java enforces strict type checking, reducing the chances of runtime errors.
- Exception handling: Java provides a robust exception handling mechanism to handle and recover from runtime errors gracefully.
- Rich standard library: Java comes with a comprehensive standard library, offering a wide range of pre-built classes and APIs for various functionalities.

4. In programming, an object is a fundamental concept of object-oriented programming (OOP). An object represents a particular instance of a class, which is a blueprint defining the characteristics and behaviors of that object. Objects have attributes (data) and methods (functions) associated with them. They can interact with each other by invoking methods and exchanging data.

5. A class is a blueprint or template in object-oriented programming that defines the properties (attributes) and behaviors (methods) that objects of that class will have. It serves as a blueprint from which individual objects are created. A class encapsulates related data and functions into a single unit, providing a way to organize and structure code.

6. In Java, the main() method is the entry point of a Java program. It is a special method that acts as the starting point for the execution of the program. When a Java program is run, the JVM (Java Virtual Machine) looks for the main() method to begin executing the code. The main() method must have a specific signature: `public static void main(String[] args)`. The

code inside the `main()` method is executed sequentially, and it can call other methods and perform various operations.