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BSIT 2-1

Comp ooo OOP

ANSWERS

1. Java is a programming language used to create applications such as desktop, web, and mobile apps. It is object-oriented because it uses objects to organize code and make it easier to manage. One of its main features is platform independence which allows programs to run on different OS without rewriting the code. Java is also secure and automatically manages memory. Because of this, Java is widely used especially in backend development and large systems

2. As stated earlier, Java can run on different OS without rewriting the code, and Java achieves this by converting source code into bytecode instead of directly into machine code. Java is also known for being "Write once, run anywhere"

4. A Java virtual machine is responsible for running Java programs by converting bytecode into machine code that the computer can understand. The Java Runtime environment provides the environment needed to run Java programs. Basically, the JVM runs the program, JRE allows it to run, and JDK is used to develop programs

5. A Java program is mainly made up of a class, main method, variables, and methods. The class serves as the main structure that contains the program, the main method is the starting point where the program begins running. These components work together so the program can run properly

5. Compiled languages convert the entire source code into machine code before the program runs, which makes them fast during execution. Interpreted languages on the other hand translate the code while the program is running. Java is both a compiled and interpreted language. Java compiler first converts the source code into byte code, then JVM translates bytecode to machine code so the computer executes it.