David Ekekezie

Java Compilation Process.

When you write a code on Java, it is written in high level language which is the human readable language. This code cannot be executed because the machine does not understand the high level language, so therefore it must be translated to machine level language. That is the job of the Java complier.

There are a few simple steps involved in the compilation process:

You write the java code on a text editor or an IDE, when you’re ready to run your code you compile it using the java complier and this will convert it from high level to low level language representation which can be read and processed by the Java virtual machine. Once it is processed the code can be ran using the Java virtual machine.

CHAPTER SUMMARY

One of the most popular programming languages in use today is Java. Java is frequently chosen by businesses to fulfill their needs for enterprise programming. Java is also frequently used to develop software for network-connected devices and Internet-based applications.The way we interact with technology has changed as a result of several developments in the field of computing in recent years. The development of programming languages like Java has been one of the most important developments.

Java is a popular programming language that comes in different editions, including Standard, Enterprise,and Micro. Each edition is used for a specific type of application, with Standard being used for desktop applications, Enterprise for web applications, and Micro for embedded systems such as mobile devices.

There have been significant advancements in computer hardware and software in addition to programming languages. Input, output, arithmetic and logical, memory, central processing, and secondary storage are just a few of the logical units that make up a computer. Each component performs a particular task, such as handling user interactions or processing, storing, or processing data.

From bits to characters to fields to records to files to databases to big data, the data that a computer processes is organized in a hierarchy. Understanding this hierarchy will help one comprehend how computers store, process, and retrieve data.

Writing commands that computers can understand depends heavily on programming languages. The language that computers can understand directly is called machine language, whereas assembly and high-level languages need to go through intermediate translation steps through an assembler and a compiler, respectively.

The best way to understand object-oriented programming's introduction is with the aid of an automobile.Classes, methods, instantiation, reuse, attributes, encapsulation, inheritance, interfaces, object-oriented analysis and design, modeling, and the use of the unified modeling language are just a few of the various OOP concepts that were covered.

Personal computers can run a variety of operating systems, including Linux, which is open source, as well as proprietary ones like Windows and MacOS. Android and iOS are the most popular operating systems for other gadgets like smartwatches, gaming consoles, NASA satellites, and medical devices.

Programming languages come in many varieties, and each has advantages and disadvantages. Some programming languages, like Java, are object-oriented, while others, like functional programming, structured programming, and procedural programming, are used for different programming paradigms.

Java is based on James Gosling's object-oriented programming language, which allows programmers to create applications that can run on a wide range of computers and computer-controlled devices. We develop and run Java applications in the Java development environment. Through specific commands, this process is carried out in five stages: edit, compile, load, verify, and execute. These are the only ways that the Java application can be run.