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DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

A Report on

Features of Programming Language

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Contents

Features of Programming Language:

- **Syntax**: The specific rules and structure used to write code in a programming language.
- **Data Types**: The type of values that can be stored in a program, such as numbers, strings, and booleans.
- **Variables**: Named memory locations that can store values.
- **Operators**: Symbols used to perform operations on values, such as addition, subtraction, and comparison.
- **Control Structures**: Statements used to control the flow of a program, such as if-else statements, loops, and function calls.
- **Libraries and Frameworks**: Collections of pre-written code that can be used to perform common tasks and speed up development.
- **Paradigms**: The programming style or philosophy used in the language, such as procedural, object-oriented, or functional.

Features of JAVA Programming Language

In addition to the features mentioned previously, JAVA programming language provides several other features, they are:

- **Platform Independence**: Java programs are compiled into bytecode, which can run on any system that has a Java Virtual Machine (JVM). This makes Java platform-independent, meaning you can write your code once and run it anywhere.
- **Strong Typing:** Java is a statically typed language, meaning types are checked at compile time. This helps catch type-related errors early in the development process.
- **Object-Oriented**: Java is fundamentally object-oriented, which means it focuses on data (objects) and methods to manipulate that data. It supports key principles like encapsulation, inheritance, and polymorphism.
- **Garbage Collection**: Java provides strong memory management through automatic garbage collection, which helps prevent memory leaks.
- **Multithreading Support**: Java allows concurrent execution of two or more threads, enabling efficient CPU usage and improving application performance.
- **Exception Handling:** Java's exception handling mechanism allows developers to manage runtime errors, preventing the program from crashing.