Introduction to C Programming Language

1. What is C?

C is a powerful, high-level programming language developed in the early 1970s by Dennis Ritchie at Bell Labs. It was originally designed for system programming and writing operating systems. The UNIX operating system was one of the first major programs written in C.

C provides a wide range of programming features such as low-level memory access, simple set of keywords, and a clean style. These features make C suitable for system programming like developing operating systems or compilers.

2. Features of C Language

Key Features of C:

- Simple and efficient

- Fast execution

- Low-level access to memory using pointers

- Modular programming

- Rich set of built-in operators

- Portable across platforms

C has influenced many other popular programming languages like C++, Java, and C#. It is widely used in embedded systems, kernel development, and real-time applications.

3. Structure of a C Program

Basic Structure of a C Program:

```
#include <stdio.h>

int main() {
    printf("Hello, World!\n");
    return 0;
```

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```
}
```

Explanation:

- #include <stdio.h>: Preprocessor command to include standard I/O library

- main(): Entry point of every C program

- printf(): Function to print output

- return 0: Exit status of the program