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Class: MSc. C.S. B-21
DevOps - Assignment-02

Q1.] Please write the execution of sample.c to a.out executable binary of C program in "my own" words.

Ans.

The compiler converts the given sample.c file into a.out executable binary. To do that it does the following 4 steps to convert it:

1.] Preprocessing

During compilation of a C program the compilation starts with preprocessing the directives (e.g., #include and #define).

The preprocessor reads the contents of the header file and insert it directly into the program text.

This is the first stage of compilation process where preprocessor directives (macros and header files are most common) are expanded.

This results that all macros expanded.

2.] Compilation

The compiler translates preprocessor output to assembly language.

3.] Assembler

The assembler translates source code into machine language instructions, and generates an object file.

The resulting file contains the machine instructions for the source program.

4.] Linking

Linking is a process of including the library files into our program.

Library Files are some predefined files that contain the definition of the functions in the machine language.

We use Library Files to give meaning to some unknown statements from our object file.

The linking process generates an executable file which can be executed whenever required.