Compilation of a C-program

A ".c" file goes through stages of compilation to get an executable file
And to get the required output we run this executable file in terminal.

Stages of Compilation:

Pre-Processing :This is the first steps where source file is passed. This step is performed by following command in our makefile:

gcc -E hello.c -o hello.i

The preprocessor does removal of comment,removal of comments,expansion of Macros,expansion of the included files, Conditional compilation.The preprocessor convert the file into ".i" extension.

Compilation :This is the second steps of the process and performed with the help of following command:

gcc -S hello.i -o hello.s

It takes the output (generated ".i" file) and generates the assembler source code. I.e. it will create ".s" file.

Assembly: In this steps , Assembler converts ".s" file into Object code ,it will create a file with ".o" extension which is the binary version of the code.This step is performed by this command:

gcc -c hello.s -o hello.o

Linking: This is the final step of compilation where ".o" file is finally converted to executable file.this step is performed by this command :

gcc hello.o -o hello

*FInally our code is ready to run by "**./hello**"*