The gcc Command

```
#include <stdio.h>
int main(void)
/* Print "Hello world" to stdout. */
{
    printf("Hello world\n");
    return 0;
}
```

**hello.c**  
Source code  
C language  
Contains preprocessor directives

**Preprocess**  
gcc -E hello.c > hello.i

```
...  
int printf(char *format, ...);
...  
int main(void)
{
    printf("Hello world\n");
    return 0;
}
```

**hello.i**  
Source code  
C language  
Contains declaration of printf function  
Missing definition of printf function

Continued on next page
C Compiler

Compile

gcc –Wall –ansi –pedantic –S hello.i

Hello.s
Source code
Assembly language
Missing definitions of printf function
Continued from previous page

Assemble

Assembler

gcc –c hello.s

hello.o
Object code
Machine language
Missing definition of printf function

Link

Linker

gcc –o hello hello.o –lc

libc.a
Library containing
machine language definition
of printf function

hello
Executable code
Machine language

Shortcut:

gcc –Wall –ansi –pedantic –o hello hello.c

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