Princeton University
COS 217: Introduction to Programming Systems
Building C Programs

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

**Preprocess**
```
gcc217 -E hello.c > hello.i
```

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

**Compile**
```
gcc217 -S hello.i
```

Continued on next page
hello.s
Source code
Assembly language
Missing definition of printf() function

Assemble
gcc217 –c hello.s

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

Link
gcc217 hello.o –lc -o hello

hello
Executable code
Machine language

Shortcut:
gcc217 hello.c -o hello

gcc217
is an abbreviation for
gcc –Wall –ansi –pedantic –m32 –march=i386

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