

Princeton University  
COS 217: Introduction to Programming Systems  
C Function Declarations and Definitions

**Function declaration**

A statement that informs the compiler of the function's signature (i.e., its name, return type, number of parameters, types of parameters) and linkage. Has no "body." Need not specify parameter names.

**Function definition**

A declaration that causes the compiler to generate executable code. Has a "body." Specifies parameter names.

C Code	Decl/Def	Linkage	Comment
<code>int f1(int);</code>	declaration	External	Common
<code>extern int f2(int);</code>	declaration	External	
<code>static int f3(int);</code>	declaration	Internal; f3 must be defined in same compilation unit	
<code>int f4(int i) { ... }</code>	definition	External	Common
<code>extern int f5(int i) { ... }</code>	definition	External	Rare
<code>static int f6(int i) { ... }</code>	definition	Internal	Common

Note: It is somewhat rare to use the `extern` keyword with a function declaration or definition, just because `extern` is the default.