

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	Rare (but see Hanson book)
<code>static int f3(int);</code>	declaration	internal; f3 must be defined in same compilation unit	Rare
<code>int f3(int i) { ... }</code>	definition	external	Common
<code>extern int f4(int i) { ... }</code>	definition	external	Rare
<code>static int f5(int i) { ... }</code>	definition	internal	Common

Note: Somewhat rare to use "extern" keyword with function declaration or definition – because "extern" is the default.