

Figure 3.1: Scalar Types

Type	C	sizeof	Alignment (bytes)	AMD64 Architecture
Integral	<code>_Bool</code> [†]	1	1	boolean
	<code>char</code> <code>signed char</code>	1	1	signed byte
	<code>unsigned char</code>	1	1	unsigned byte
	<code>short</code> <code>signed short</code>	2	2	signed twobyte
	<code>unsigned short</code>	2	2	unsigned twobyte
	<code>int</code> <code>signed int</code> <code>enum</code> ^{†††}	4	4	signed fourbyte
	<code>unsigned int</code>	4	4	unsigned fourbyte
	<code>long</code> <code>signed long</code> <code>long long</code> <code>signed long long</code>	8	8	signed eightbyte
	<code>unsigned long</code>	8	8	unsigned eightbyte
	<code>unsigned long long</code>	8	8	unsigned eightbyte
	<code>__int128</code> ^{††} <code>signed __int128</code> ^{††}	16	16	signed sixteenbyte
	<code>unsigned __int128</code> ^{††}	16	16	unsigned sixteenbyte
	Pointer	<code>any-type *</code> <code>any-type (*) ()</code>	8	8
Floating-point	<code>float</code>	4	4	single (IEEE-754)
	<code>double</code>	8	8	double (IEEE-754)
	<code>long double</code>	16	16	80-bit extended (IEEE-754)
	<code>__float128</code> ^{††}	16	16	128-bit extended (IEEE-754)
Decimal-floating-point	<code>_Decimal32</code>	4	4	32bit BID (IEEE-754R)
	<code>_Decimal64</code>	8	8	64bit BID (IEEE-754R)
	<code>_Decimal128</code>	16	16	128bit BID (IEEE-754R)
Packed	<code>__m64</code> ^{††}	8	8	MMX and 3DNow!
	<code>__m128</code> ^{††}	16	16	SSE and SSE-2

[†] This type is called `bool` in C++.

^{††} These types are optional.

^{†††} C++ and some implementations of C permit enums larger than an int. The underlying type is bumped to an unsigned int, long int or unsigned long int, in that order.