Floating Limits

Microsoft Specific

Table 2.7 lists the limits on the values of floating-point constants. These limits are also defined in the standard header file FLOAT.H.

Table 2.7 Limits on Floating-Point Constants

Constant	Meaning	Value
FLT_DIG DBL_DIG LDBL_DIG	Number of digits, q, such that a floating-point number with q decimal digits can be rounded into a floating-point representation and back without loss of precision.	6 15 15
FLT_EPSILON DBL_EPSILON LDBL_EPSILON	Smallest positive number x, such that x + 1.0 is not equal to 1.0.	1.192092896e–07F 2.2204460492503131e–016 2.2204460492503131e–016
FLT_GUARD		0
FLT_MANT_DIG DBL_MANT_DIG LDBL_MANT_DIG	Number of digits in the radix specified by FLT_RADIX in the floating-point significand. The radix is 2; hence these values specify bits.	24 53 53
FLT_MAX DBL_MAX LDBL_MAX	Maximum representable floating-point number.	3.402823466e+38F 1.7976931348623158e+308 1.7976931348623158e+308
FLT_MAX_10_EXP DBL_MAX_10_EXP LDBL_MAX_10_EXP	Maximum integer such that 10 raised to that number is a representable floating-point number.	38 308 308
FLT_MAX_EXP DBL_MAX_EXP LDBL_MAX_EXP	Maximum integer such that FLT_RADIX raised to that number is a representable floating-point number.	128 1024 1024
FLT_MIN DBL_MIN LDBL_MIN	Minimum positive value.	1.175494351e–38F 2.2250738585072014e–308 2.2250738585072014e–308
FLT_MIN_10_EXP DBL_MIN_10_EXP LDBL_MIN_10_EXP	Minimum negative integer such that 10 raised to that number is a representable floating-	–37 –307 –307

	point number.	
FLT_MIN_EXP DBL_MIN_EXP LDBL_MIN_EXP	Minimum negative integer such that FLT_RADIX raised to that number is a representable floating-point number.	−125 −1021 −1021
FLT_NORMALIZE		0
FLT_RADIX _DBL_RADIX _LDBL_RADIX	Radix of exponent representation.	2 2 2
FLT_ROUNDS _DBL_ROUNDS _LDBL_ROUNDS	Rounding mode for floating-point addition.	1 (near) 1 (near) 1 (near)

Note that the information in Table 2.7 may differ in future versions of the product.

END Microsoft Specific
