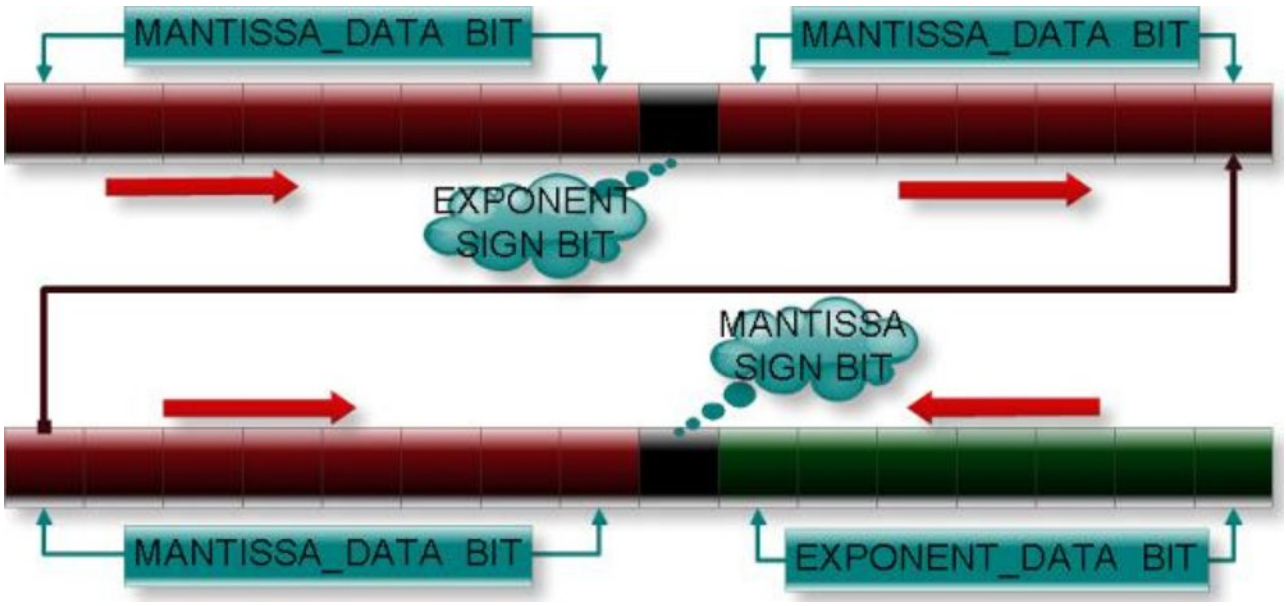
Storage of floating point in memory

Float numbers are stored in exponential form i.e.

(Mantissa)*10^ (Exponent)

Here * indicates multiplication and ^ indicates power.
In memory only Mantissa and Exponent is stored not *, 10 and ^.
Total size of float data type: 32 bit
Those bits are used in following manner:
Exponent bit: 8
Mantissa bit: 24
Mantissa is signed number, so 24 bit are used as:
Mantissa_sign bit: 1
Mantisaa_data bit: 23
For only mantissa:
Mantissa_sign bit will zero if number is positive and Mantissa_sign bit will one if number is negative.
Exponent is also signed number, So 8 bit are used as:
Exponent_sign bit: 1
Exponent_data bit: 7

Following figure illustrate how floating point number is stored in memory.



Different types of floating point data in c

The following table provide the details of standard floating-point types with storage sizes and value ranges and their precision −

Type	Storage size	Value range	Precision
float	4 byte	1.2E-38 to 3.4E+38	6 decimal places
double	8 byte	2.3E-308 to 1.7E+308	15 decimal places
long double	10 byte	3.4E-4932 to 1.1E+4932	19 decimal places