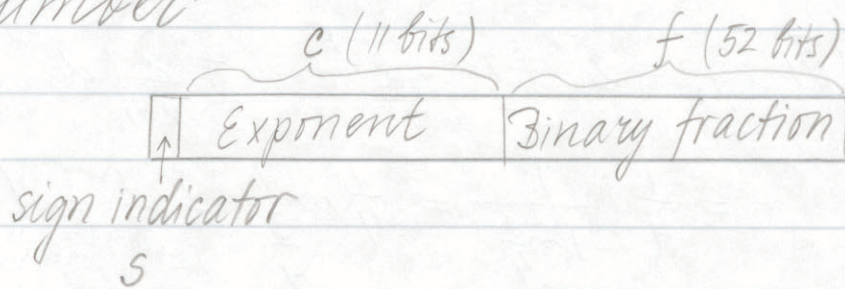


For example, the numerical coprocessor for PCs implements 64-bit (binary digit) representation for a real number



Exponent is called characteristic.

Binary fraction is called mantissa.

Since no sign for the exponent is recorded only positive exponents can be represented. However, using only positive integers for exponent would not permit the representation of small numbers. Therefore 1023 is subtracted from the characteristic so the range of the exponent is  
-1023 to 1024