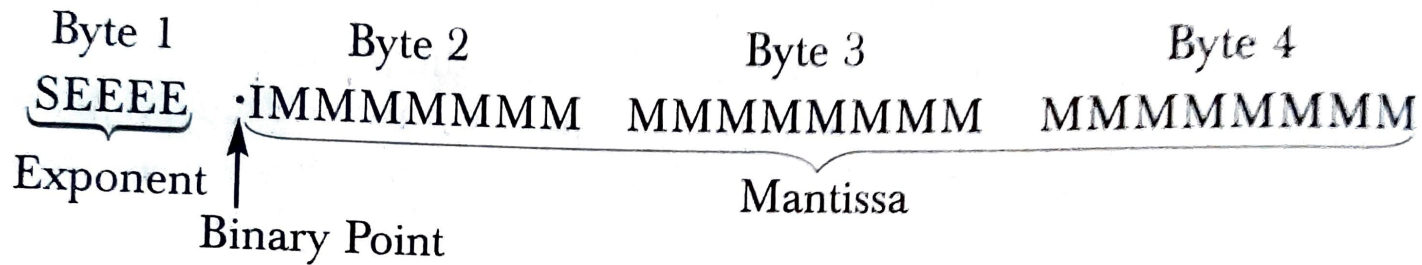resented in floating-point by all 0's in the mantissa and expon...

Two main standard forms of floating-point numbers are from the following organizations that decide standards: ANSI (American National Standards Institute) and IEEE (Institute of Electrical and Electronic Engineers). The ANSI 32-bit floating-point numbers in byte format with examples are given below:

Byte Format:

Byte 1	Byte 2	Byte 3	Byte 4
SEEEE	·IMMMMMMM	MMMMMMMM	MMMMMMMM

Exponent

Binary Point

Mantissa

S = Sign of Mantissa, E = Exponent Bits in 2's complement, M = Mantissa Bits

Examples:

$$13 = 1101 = 0.1101 \times 2^4$$
$$= 00000100\ 11010000\ 00000000\ 00000000$$
$$-17 = -10001 = -0.10001 \times 2^5$$
$$= 10000101\ 10001000\ 00000000\ 00000000$$
$$-0.125 = -0.001 = -.1 \times 2^{-2}$$
$$= 11111110\ 10000000\ 00000000\ 00000000$$