

1011.0011 ----> binary

normalized format

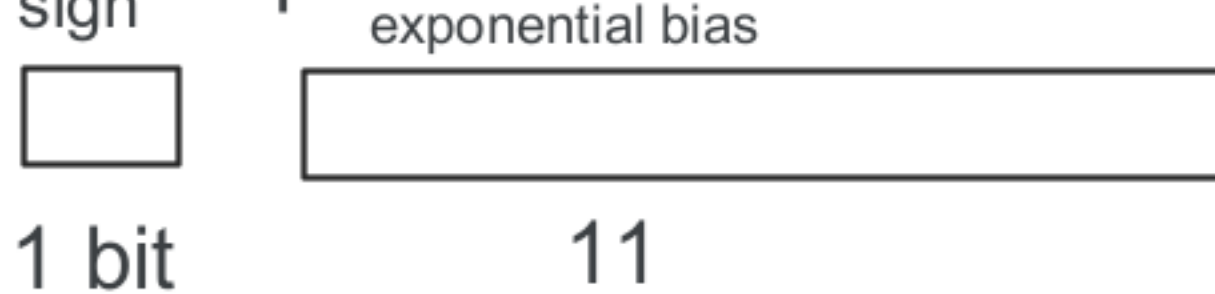
3

1.0110011 x 2

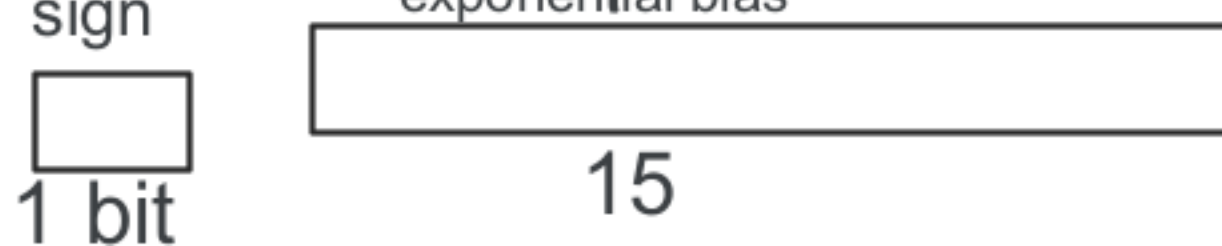
single precision - 32 bit



double precision - 64 bit



double extended precision - 80 bit

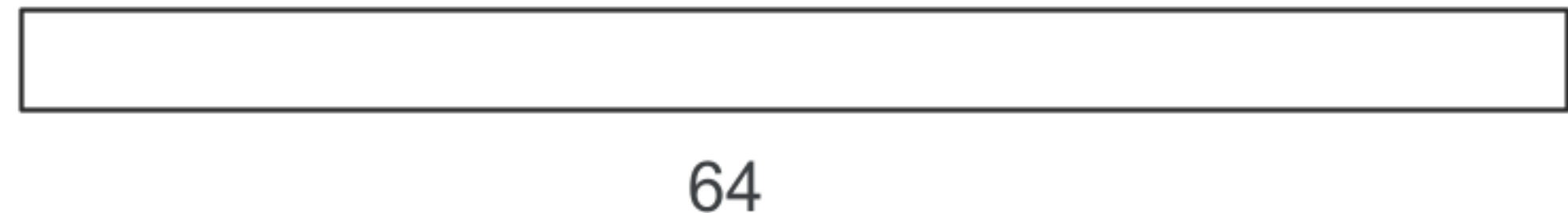


exponential bias = exponent + bias

bias for single precision - 127

bias for double precision - 1023

bias for double extended precision - 16383



175.5 $0.5 \times 2 \rightarrow 1.0$

10101111.1 7

exponential bias = $7 + 127 = 134$

1.01011111×2

single precision format

0 1000 0110 010111110000.....

sample REAL4 175.5

hex equivalent

43 2f 80 00

$1.dd... \times 2^{\text{exp}}$

fld -->
floating
point load

$$-1.01 \times 2^0 \qquad 0.25 \times 2 = 0.50 \quad 0.50 \times 2 = 1.0$$

BF FF 40 00 00 00 00 00 00 00 00

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abc real10 -1.25
```

double extended precision ----> real10

directives

single precision - 4bytes - 32 bits -----> Real4

Double precision - 8 bytes - 64 bits -----> Real8

Double extended precision - 10 bytes - 80 bits -----> Real10