

Study Questions and Answers

Binary representation

1. What is the ASCII representation for CHUD :
 - a. hexadecimal
 - b. binary
2. Represent the following decimal numbers in **both** binary sign/magnitude and two's complement using 16 bits.
+ 512
- 29

3. Represent the following two's complement values in decimal:

1101011
0101101

4. Represent the following in two's complement using 5 bits and perform the addition. Indicate if there is a carry, an overflow, or both.

6 + 4
-12 + - 4

5. Represent the following decimal values using the IEEE 754 single precision floating point representation. For each value, show the representation in binary scientific notation form, show the bit patterns in the IEEE 754 representation, and show the hexadecimal representation of the IEEE 754 representation.

+54
-0.875

6. Given the following hex that represents an IEEE 754 single precision value, give the decimal value.

0xC120000