

Assignment :1

(All the following questions must be answered in details as requested.)

1. Convert 37.26 (in base 10) to it's equivalent ...

- a. Base 16 real number
- b. Base 2 real number

Note:

You MUST show the steps in details for the conversions above.

2. Explain in details how 37.26 (in base 10) is saved in Excess_127 memory unit.

Note:

You MUST show all the steps in your calculation.

3. Normalize 101.1010000 (base 2) and show the Shifter and Mantissa for the same.

4. Show in detailed steps the result of the following calculation as done in binary through Arithmetic Logic Operation inside CPU:
 $32 - 25 = ?$

Note

The numbers are in Base 10 format.
Both numbers are stored in Memory in their 2's Complement format.

5. What's the output from:
 $(10001110) \text{ XOR } (10111001)$

Show the steps.
