Tutorial 2

1. Perform the arithmetic operations (+80) + (+90) and (-80) + (-90) with the binary numbers in signed 2's complement representation. Use 8 bits to accommodate each number together with its sign. Show that overflow occur in both cases, that last two carries are unequal.
2. Using IEEE 32-bit format convert the decimal number -17.625. Put answer in binary representation
3. Consider the following representation of a number in IEEE 754 single-precision floating point format with a bias of 127.
   S:1 E:10000001 F:11110000000000000000000
   Here S, E and F denote the sign, exponent, and fraction components of the floating point representation.
   The decimal value corresponding to the above representation (rounded to 2 decimal places) is _____.
4. Write the rules for subtraction of unsigned numbers and perform
   i) 13250 – 72532
   ii) 1010100- 1000011
5. Enlist the number of registers and their names used by the processor of general-purpose computers like Intel i5 takes how many registers?
6. What is the difference between registers and memory?
7. What is Register Memory? Advantages and Disadvantages of Register Memory