

## PRACTICE PROBLEMS FOR LAB 3

Q1. Count the number of '1's in binary representation of given number.

E.g. ab12 (hex) = 1010101100010010 (binary)

This contains 7 '1's.

Hint : Use rotation to isolate bits

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Q2. Find if the given number is divisible by 32. (The number will be greater than 16)

E.g. D3E0 (hex) is divisible by 32.

D3F0 (hex) is divisible by 32.

Method 1 (easy to think but hard to implement) : Rotate, find pattern and check bits individually.

Method 2 (hard to think but easy to implement) : Use AND operation to mask bits i.e. hide unnecessary bits and check.

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Q3. Check whether the word in 2 separate .txt files are anagrams or not.

(Anagrams - a word, phrase, or name formed by rearranging the letters of another

E.g. "silent" and "listen" are anagrams. "stones" and "noises" are not anagrams)

Hint : Time complexity  $O(n^2)$  is acceptable for this question.