Problems based on Recursion - 4

Assignment Questions

PW SKILLS

Q1 - Given a number n. Print if it is an armstrong number or not. (Easy)
An armstrong number is a number if the sum of every digit in that number raised to the power of total digits in that number is equal to the number.
Example : 153 = 1^3 + 5^3 + 3^3 = 1 + 125 + 27 = 153 hence 153 is an armstrong number.

Input1 : 153
Output1 : Yes

Input 2 : 134
Output2 : No

Q2 - Given two number x and y find product using recursion. (Easy)

Input1 : x = 5, y = 2
Output1 : 10

Input2 : x = 100, y = 5
Output2 : 500

Q3 - Given a number n, check whether it's a prime number or not using recursion. (Easy)

Input1 : n = 11
Output1 : Yes

Input2 : n = 15
Output2 : No

Q4 - Given a decimal number as input, we need to write a program to convert the given decimal number into its equivalent binary number. (Easy)

Input1 : 7
Output1 : 111

Input2 : 10
Output2 : 1010

Q5 - Given the Binary code of a number as a decimal number, we need to convert this into its equivalent Gray Code. In gray code, only one bit is changed in 2 consecutive numbers. (Medium)
Hint: The Most Significant Bit (MSB) of the gray code is always equal to the MSB of the given binary code and other bits of the output gray code can be obtained by XORing binary code bit at that index and previous index.

Input1: 1001
Output1: 1101

Input2: 11
Output2: 10