Basic questions to improve your coding skills : Set 1

1. To print this pattern:

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Input : number of lines. Note : Don't use printf statements for each line; use nested loops.

2. To compute the value of e^x by using the formula
$$e^x = 1 + x/1! + x^2/2! + x^3/3! + \ldots$$

3. To display each digit of a number in words. Use switch construct in this program.

4. To check if a given number is perfect number or not. (Perfect number is a positive integer that is equal to the sum of its proper positive divisors. Eg : $28 = 1 + 2 + 4 + 7 + 14$

5. To calculate ^nC_r

6. To swap 2 numbers without using a temporary variable.

7. To find L.C.M and H.C.F of two numbers.

8. To check if a number is in FIBONACCI series or not. (Generate the Fibonacci series in your program: 0, 1, 1, 2, 3, 5, 8, 13, 21, …)

9. To print all prime numbers which are palindromes in the range [1,N]

10. To count the number of spaces in a sentence. (use getchar() function)

11. To print the position of a character in the English Alphabet without using switch or if-else ladder for checking each case. Eg : A – position 1. y – position 25 [Check for both upper and lower case letters. For any invalid input, print suitable message.]

12. Menu-driven program to implements the following functions of a calculator :
   i.   Addition
   ii. Subtraction
   iii. Multiplication
   iv. Division
   v.   Exit

[User should be able to select one of the above options and the program should give output for the selected option. Use a do-while loop to display the choices to the user and do the appropriate function till he/she selects the Exit option]