Assignment-2

1. Write a Program to find if a given number is armstrong number. (153 = 1^3 + 5^3 + 3^3)

2. Write a program to reverse a string using recursive functions

3. Write program, which will print all numbers between 0 and 9, 20 and 29, 40 and 49,…, 80 and 89.[hint: check condition ((x/10)%2)==0].

4. Write program, which reads and integer X and prints an integer Y. Y is X+10 if x is between 10 and 30. Y is 3*X if X is between 50 and 70. Otherwise Y is X-2.

5. Write program, which prints sum of all factors. E.g. if given number is
   24 (2+3+4+6+8+12+24=59)

6. Write program, which reads a number and print PRIME if the given number is prime. If the given number is not a prime then COMPOSITE is printed. (Hint: Smallest factor of prime number is equal to itself).

7. Write program, which reads a number Let 't' be its smallest factor. Find smallest factor of t+2. e.g. input 77 output 3 (since t = 7).

8. Write program, which reads n , and n numbers. The program finds their sum. There is comma(,) after n and between numbers. Input 5,2,3, 1,7, 9, output 2+3+1+7+9=22.

9. Write program, which reads n and n pair of numbers. The program finds product of every pair. Then their sum is calculated. If n=4 and pairs are (3, 2) (6, 3) (2, 6) (4, 3) then output is 3*2 + 6*3 + 2*6 + 4*3 = 48.

10. Write program, which reads a number and finds its first digit. Do not use any loop [hint: scanf("%ld")]

12. Write program, which reads two numbers. The program finds the product of their first digits.

13. Write program, which reads a number and finds its first even digit. [one loop]

14. Write program which finds the sum of all those numbers, whose last digit is multiple of three.(in above case).

15. Read a number and delete the maximum digit. Assume that all digits in the number are distinct. e.g. input 237436 output 23436.

16. Write program, which reads a number and finds the sum of digits in its factorial. If given number is 6 then the answer is 9 because 6! = 720.

17. Write program, which reads a number and finds how many times the first digit occurs. If the number is 34533253 then the answer is 4 since the first digit (3) occurs 4 times. [Hint: declare long int x; and Read number using scanf("%ld",&x);]

18. Write a program that will read a positive integer and print its binary equivalent

19. Develop a program to add and multiply two matrices

20. Develop a program to sort n strings. Use array of pointers.

21. Write a program to sort all the elements of 4 by 4 matrix. A magic square is a square array of positive integers such that the sum of each row, column, and diagonal is the

same constant.
For Example:

16 3 2 13
5 10 11 8
9 6 7 12
4 15 14 1

Given above is a magic square whose constant is 34. Write a program to determine whether or not the given square is a magic square.

22. Write a function to get the transpose of a matrix.

23. Write a program to encrypt / decrypt a file using bit wise operator XOR (^).