1. Write a program to reverse a linked list using recursion.
2. Write a program to calculate the factorial of a given number.
3. Write a program to calculate the GCD of two numbers using recursive functions.
4. Write a program to calculate exp(x,y) using recursive functions
5. Write a program to print the Fibonacci series using recursion.
6. Write a program to compute F(x, y), where F(x, y) = F(x-y, y) + 1 if y<x And F(x, y) = 0 if x<y
7. Write a program to compute F(n, r) where F(n, r) can be recursively defined as: F(n, r) = F(n–1, r) + F(n–1, r–1)
8. Write a program to compute Lambda(n) for all positive values of n where Lambda(n) can be recursively defined as: Lambda(n) = Lambda(n/2) + 1 if n>1 and Lambda(n) = 0 if n =1
9. Write a program to compute F(M, N) where F(M, N) can be recursively defined as: F(M,N) = 1 if M=0 or M≥N≥1 and F(M,N) = F(M–1,N) + F(M–1, N–1), otherwise
10. Write a program to reverse a string using recursion.
11. Write a program to Check if a number is Palindrome

# Write a Program to calculate the length of a string using recursion

# Write a program either using iterative or recursive to find the First uppercase letter in a string

# Write a program Deepesh's mobile got locked. He forgot his passcode but he is aware of digits used in his passcode. Generate and print all the different passcode possible from the given known digits. There will not be any repeated digit.

# 

1. Given a string s representing a valid expression, implement a basic calculator to evaluate it, and return *the result of the evaluation*. **Note:** You are **not** allowed to use any built-in function which evaluates strings as mathematical expressions, such as eval().

**Example 1:**

**Input:** s = "1 + 1"

**Output:** 2

**Example 2:**

**Input:** s = " 2-1 + 2 "

**Output:** 3

**Example 3:**

**Input:** s = "(1+(4+5+2)-3)+(6+8)"

**Output:** 23

1. A word is considered elfish if it contains the letters: e, l, and f in it, in any order. For example, we would say that the following words are elfish: whiteleaf, tasteful, unfriendly, and waffles, because they each contain those letters. • Write a predicate function called elfish? that, given a word, tells us if that word is elfish or not.
2. Write a program in C to print first 50 natural numbers using recursion.

Expected Output:

The natural numbers are : 1 2 3

4 5 6 7 8 9 10 11 12 13

14 15 16 17 18 19 20 21

22 23 24 25 26 27 28 29 30

31 32 33 34 35 36 37 38

39 40 41 42 43 44 45 46 47

48 49 50

1. Write a program in C to count the digits of a given number using recursion.

Test Data :  
Input a number : 50  
Expected Output :

The number of digits in the number is : 2

1. Write a program in C to convert a decimal number to binary using recursion.

Test Data :  
Input any decimal number : 66  
Expected Output :

The Binary value of decimal no. 66 is : 1000010