Recursion

1. Write a recursive function to calculate the gcd of two numbers.

2. Write a recursive function to print the first n Fibonacci numbers.

3. Write a recursive function to calculate the power of a two number(consider the degree as a negative/positive integer).

4. Write a recursive function to calculate the sum of all digits of a number entered by the user.

5. Write a recursive function to find the sum of the following series.
   (a) S= 2 + 4 + 6 + 8 + ... + N (Input N).
   (b) S= $1^2 - 3^2 + 5^2 - 7^2 +$ + N (Input N).
   (c) S= $x^3 - x^3/3 + x^3/9 - x^3/27 + x^3/81 - x^3/243$ ….(Input X,N).

6. Write a Program to implement Binary Search using a recursive function.

7. Write a Program to reverse an array using a recursive function **.**

8. Write a Program to calculate the length of the string using a recursive function.

Note:

- Programs must be written using Java Programming Language.
- Do proper commenting so that it becomes easy for us to read your code.