Applied Programming
Programming Assignment 2

Q. 1: Write a program that accepts from the user an input positive integer n, then determines and displays the nth Fibonacci number.

Q. 2: Write a recursive C++ program to determine all the ways that an integer X between 1 and 100 (both inclusive) can be expressed as the Nth power of natural numbers between 2 and 10 (both inclusive). The user should be able to type in the value of N and X. The program should also display all the different ways in which the number X can be expressed as the Nth power of natural numbers. For instance, if N = 2 and X = 13, your program's output should be:

10 = 2^2 + 3^2

Q. 3: Implement a C++ program to recursively sum the digits in a positive integer. If the recursive function is named sum_digit, and the number input by the user is 795, then the first call will be to sum_digit(795), the next recursive call will be to sum_digit(21) because 7+9+5 is 21. The next recursive call will be to sum_digit(3).