## While Loops

1. Write a program that takes a number as input and checks if it is a **prime number**. (A number is a prime number if it is only divisible by itself and 1).

2. Write a program that takes an odd number N as input from keyboard and finds the value of the following series:
   $1^2 + 3^2 + 5^2 + \ldots + N^2$

3. Find the value of the following series:
   $4 + 7 + 10 + 13 + \ldots + N$
   N must be taken as an input.
   Hint: Try to find the intervals between the two consecutive terms. The above series can be written like the following:
   $4 + (4+3) + (7+3) + (10+3) + \ldots + N$

4. Write a program that takes a number as input and checks if it is a **perfect number**.
   (NOTE: A perfect number is a positive integer that is equal to the sum of its positive divisors, excluding the number itself. For instance, 6 has divisors 1, 2 and 3 (excluding itself), and 1 + 2 + 3 = 6, so 6 is a perfect number.)

5. Write a C program that will take a whole number N from keyboard, then compute and display all the multiplication tables starting from 1 up to N (inclusive). The value of N must be between 1 and 10. If the user enters any number less than 1 or greater than 10, your program must show the error message: “Invalid input”.