

**Q1)** If we list all the natural numbers below 10 that are multiples of 3 or 5, we get 3, 5, 6 and 9. The sum of these multiples is 23.

Find the sum of all the multiples of 3 or 5 below 1000.

**Q2)** Enter a number between 0 and 1000 and sum of the digits:  
999 The sum of the digits is 27

**Q3)** (Physics: acceleration) Average acceleration is defined as the change of velocity divided by the time taken to make the change, as shown in the following formula;

$$a = \frac{v_1 - v_0}{t}$$

Write a program that prompts the user to enter the starting velocity  $v_0$  in meters/second, the ending velocity  $v_1$  in meters/second, and the time span  $t$  in seconds, and displays the average acceleration.

**Q4)** Each new term in the Fibonacci sequence is generated by adding the previous two terms. By starting with 1 and 2, the first 10 terms will be:

1, 2, 3, 5, 8, 13, 21, 34, 55, 89, ...

By considering the terms in the Fibonacci sequence whose values do not exceed four million, find the sum of the even-valued terms.

**Q5)** Check whether a given string (let's say "RADAR" ) is a Palindrome.