Array, Variable, Loop Homework

**1.**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.

**2.** 2520 is the smallest number that can be divided by each of the numbers from 1 to 10 without any remainder. What is the smallest positive number that is evenly divisible by all of the numbers from 1 to 20?

**3.** The sum of the squares of the first ten natural numbers is,

12 + 22 + ... + 102 = 385

The square of the sum of the first ten natural numbers is,

(1 + 2 + ... + 10)2 = 552 = 3025

Hence the difference between the sum of the squares of the first ten natural numbers and the square of the sum is 3025 − 385 = 2640.

Find the difference between the sum of the squares of the first one hundred natural numbers and the square of the sum.