

- 5.4 Write a program to find the average and standard deviation of a set of input positive real numbers. The input data contains a set of one or more positive real numbers terminated by a zero or a negative number. Determine the average and standard deviation of the numbers (not including the last one) by using the following formulas.

$$\text{Average} = \frac{X_1 + X_2 + X_3 + \dots + X_n}{n}$$

$$\text{Standard deviation} = \sqrt{\frac{X_1^2 + X_2^2 + X_3^2 + \dots + X_n^2}{n} - \text{Average}^2}$$

Display you result as shown.

Sample running 1 :

Please input a list of positive real numbers terminated by zero or a negative number.
The program will find the average and standard deviation of this list of positive numbers.

Please input the first number : **12**<CR>
Please input another number : **25**<CR>
Please input another number : **36**<CR>
Please input another number : **45**<CR>
Please input another number : **20**<CR>
Please input another number : **-1**<CR>

The average is 27.60
The standard deviation is 11.67

End of program

Sample running 2 :

Please input a list of positive real numbers terminated by zero or a negative number.
The program will find the average and standard deviation of this list of positive numbers.

Please input the first number : **-2**<CR>

End of program