Exercises MATLAB – 1

Ex1. Given a vector V = [17 8 12 15 6 11 9 18 16 10 13 19].

a. Calculate the length, the sizes, the number of rows, the number of columns of this vector

b. Calculate the sum of vector elements

c. Calculate the average of this vector

d. Calculate the standard deviation of this vector

$$\sigma = \sqrt{\frac{1}{N-1}\sum_{i=1}^{N}(x_i - \bar{x})^2}$$ in that $\bar{x}$ is the average

e. Calculate the differentiate between two adjacent elements of this vector

Ex2. Do the following requirements:

First of all, display format 'short g'

a. Create a vector t got 51 equidistant elements from -25 to 25

b. Calculate the vector $x = t^2$

c. Calculate the vector $y = t^3$ but in reverse order

d. Calculate the sum of all even values in vector x

e. Calculate the sum of all positive values in vector y

Ex3. Do the following requirements:

a. Create a column vector t with elements from 1 to 10 and the space between two elements is 0.5

b. Create a matrix A with the columns are t, t^2, t^3 and t^4

c. Add one more column to the right with 1 while t>5 and 0 otherwise

d. Add one more column to the right with 5 while t is entire integer and 0 otherwise

Ex4. Find the minimum between 3 integers

Ex5. Find the maximum among elements in a vector

Ex6. Read 10 integers and count number of even, odd values