**Extra Basic Exercises**

Write Java console applications:

**Exercise 1**- Input a non-negative integer n, the program will show the first n primes (Refer to the tutorial 2 in the subject PFC).

For example: Input: n= 7

Output: 2 3 5 7 11 13 19

Review: The Fibonacci Sequence (Refer to the tutorial 2 in the subject PFC):

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

**Exercise 2**- Input a non-negative integer, the program will show whether it is an element of the Fibonacci sequence or not.

Example: Input: 7

Output: It does not belong to the Fibonacci sequence

Input: 55

Output: It belongs to the Fibonacci sequence

**Exercise 3**- Input an array of maximum of 100 integers. Print out the max value, min value, sum of elements, average value of this array.

**Exercise 4**- Input a square matrix of integer, the program will show

- whether this matrix is vertical symmetric or not.

- whether this matrix is horizontal symmetric or not.

***Examples:***

***A vertical symmetric matrix:***

1 2 2 1

5 6 6 5

1 0 0 1

4 3 3 4

***A horizontal symmetric matrix***:

1 2 3 4

5 6 7 8

5 6 7 8

1 2 3 4