Exercise 1:

Write a script to generate first 100 numbers of Fibonacci sequence. It is defined as:

$$F_x = \begin{cases} 1, & x = 1 \\ 1, & x = 2 \\ F_{x-1} + F_{x-2}, & x \geq 3 \end{cases}$$

You may look into Wikipedia for details.

Exercise 2:

Write a function to generate '*n'* numbers of Fibonacci sequence where '*n'* is the input to the function.

Fseq = Fibonacci(n)

where *n* is the input to the function while Fseq is the output of the function containing an array or list of numbers generated by Fibonacci sequence.

Exercise 3:

Write a function to generate sum of '*n'* numbers of Fibonacci sequence where '*n'* is the input to the function.

Fseq = FibonacciSum(n)

where *n* is the input to the function while *Fseq* is the output of the function containing the sum of *n* numbers generated by Fibonacci sequence.

Exercise 4:

Write a function to generate '*n'* numbers of Fibonacci sequence and their sum such that numbers are not divisible by 2 or 5. '*n'* is the input to the function.

Fsum,Fseq = FibonacciFilter(n)

where *n* is the input to the function while *Fsum* and *Fseq* are the outputs of the function containing the sum and an array or list of *n* numbers generated by Fibonacci sequence which are not divisible by 2 or 5.

Exercise 5:

Write a function which can convert the positive number in words. The maximum number that can be entered must be smaller than 100. For instance, if user provides the number 34 as input, then function should display "Thirty four". The number is provided as an input to the function.

Exercise 6:

Write a function which can add two similar size matrices taking both the matrices as inputs of the function. The matrices are taken as list of lists.

Exercise 7:

Write a function which can convert the input numeric number n into letters. The inputs needs to be in the range 0-100. For example, num2str(22) will result in string output of "Twenty Two".

Exercise 8:

Write a function which takes two list of same size as inputs and return a list containing alternate items. For example, mergelists([1,2,3],[4,5,6]) will return [1,4,2,5,3,6].

Exercise 9:

Write a function which takes a list and sort odd numbers in it followed by even numbers in the list and return it. For example, sortoddeven([1,3,2,6,5,7,9,8,4]) will return [1,3,5,7,9,2,4,6,8].

Exercise 10:

Write a function which can multiply two compatible size matrices taking both the matrices as inputs of the function. The matrices are taken as list of lists.

More exercises :

Write functions which can generate convergent mathematical series. You can find few of them at https://en.wikipedia.org/wiki/Convergent_series