

- A. Draw a flow chart to find multiple roots of a given function. Write a Matlab script to find multiple roots of a given function.
- B. Draw a for-loop flow chart to evaluate the following series, and write a Matlab function to implement your flow chart

$$S_N = \sum_{n=1}^N \left(\lfloor \frac{n^2}{5} \rfloor + \frac{\lceil 2n \rceil}{3} \right)$$

$$a_n = a_{n-1} + 2a_{n-2}, \quad n \geq 3$$

$$a_1 = a_2 = 1$$

- C. Let s denote a series that consists of 200 outcomes of a dice.
1. Generate s
 2. Draw a flow chart to count numbers of possible outcomes in s
 3. Write a matlab function to implement your flow chart
- D. Let ss denote a sequence of actg characters.
1. Draw a flow chart to count numbers of four characters in ss .
 2. Write a matlab function to implement your flow chart.
- E. Let $v_0 = (100 \ 600 \ 300)^T$ and P denote the transition matrix
1. Draw a for-loop flow chart to evaluate v_k , where
 2. Write a matlab function to implement your flow chart
 3. $v_k = ?$ for $k=20$ and $k=100$

$$v_k = P' v_{k-1}$$

P =		
0.1000	0.4500	0.4500
0.3333	0	0.6667
0.5000	0	0.5000