Assignment on Linear Search

Implement Linear Search

- Count the number of key comparisons for various inputs and plot the graph.
- For every input size n , run it with n+ 1 different keys - n successful plus 1 unsuccessful
- Compute the minimum, maximum and average of the number of key comparisons for each input size.
- Plot the graph for each case - best, worst and average number of comparisons.
- 'n' varies from 10 to 100 in steps of 5

Sample Input

- For n=2

  Input: 5, 3

  Keys to be searched: 5, 10, 3.

  Best Case- 1 comparison

  Worst Case- 2 comparison

  Average Case- $(1+2+2)/3 = 5/3$
- For n=3

  Input: 5, 10, 3

  Keys to be searched: 5, 10, 15, 3.

  Best Case- 1 comparison

  Worst Case- 3 comparison

  Average Case- $(1+2+3+3)/4 = 9/4$
- For n=4

  Input: 5, 10, 1, 4

  Keys to be searched: 5, 10, 1, 15, 4

  Best Case- 1 comparison

  Worst Case- 4 comparison

  Average Case- $(1+2+3+4+4)/5 = 14/5$

Sample Output: Graph Plot