DATE: 28-Aug-2020 Yashwant Patidar

Sc: 191112243

DSA: LAB-ASSIGNMENT 3

Ques (a): Count number of steps for **SECRET - ALGORITHM.**

Code:

#include<iostream>

using namespace std;

int count = 0;

int secret ( int A[] , int n)

{

int minval = A[0] ;

::count++ ;

int maxval = A[0] ;

::count++ ;

for (int i=1 ; i<n ; i++)

{

::count++ ;

if ( A[i] < minval )

{

minval = A[i] ;

::count++ ;

}

::count++ ;

if ( A[i] > maxval)

{

maxval = A[i] ;

::count++ ;

}

::count++ ;

}

::count++ ; // since the loop condition will be checked n+1 times

::count++ ;

return (maxval - minval);

}

int main()

{

for (int i=0 ; i<5 ; i++)

{

int n ;

cout << "Enter the size of array : " ;

cin >> n ;

int A[n] ;

cout << "Enter the elements of array : " ;

for (auto &x : A)

cin >> x ;

secret( A , n ) ;

cout << "COUNT = " << ::count << " \n\n" ;

::count = 0 ;

}

}

Output:

|  |  |
| --- | --- |
| Graph: Size of Array | Time - Complexity |
| 5 | 20 |
| 10 | 40 |
| 15 | 60 |
| 20 | 80 |
| 25 | 100 |