Experiment No 2:

A program for Linear Search

Aim: Write a program to implement linear search.

Theory:

Linear Search is defined as a sequential search algorithm that starts at one end and goes through each element of a list until the desired element is found, otherwise the search continues till the end of the data set.

In Linear Search Algorithm,

- Every element is considered as a potential match for the key and checked for the same.
- If any element is found equal to the key, the search is successful and the index of that element is returned.
- If no element is found equal to the key, the search yields “No match found”.

Algorithm:

(Linear Search) LINEAR (DATA, N, ITEM, LOC)

Here DATA is a linear array with N elements, and ITEM is a given item of information. This algorithm finds the location LOC of ITEM in DTA, or sets LOC:=0 if the search is unsuccessful.

1.[Insert ITEM at the end of DATA.] Set DATA[N+1]:=ITEM
2.[Initialize counter.]Set LOC:=1.
3.[Search for ITEM.]
  Repeat while DATA[LOC]≠ITEM:
    Set LOC:=LOC+1.
  [End of loop.]
4.[Successful?]If LOC=N+1,then: Set LOC:=0
5.Exit.

PROGRAM:

OUTPUT

CONCLUSION