PRACTICAL EXAMINATION–ANSWERS-SHEET

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Date : 03/12/2024 Subject Code: V20UDS202

Subject : Data Structure and Algorithm

Title : Linear Search

**Aim :** To implement an function which can take array , size , target as an input to search and return the target index or -1.

**Procedure/Algorithm:**

1. Start program
2. Create , function which takes three inputs array, size ,target:
3. Create for loop which loop through the input array.
4. Compare each item in the array with the given target.
5. If the given target is present then return the index.
6. Else return -1 as given in the problem statement.
7. Initiate the Main function :
8. Create the array and assign value eg(int arr[] = {}).
9. Create size and assign the size by calculating the length of the array eg(int size= sizeof()).
10. Create target variable and assign value eg(int target = value).
11. Initiate an If statement which return the target and the index of the target using and print statement.
12. Else return -1 .
13. Stop Program.

**Program :**

#include<stdio.h>

#include<stdlib.h>

int linearsearch(int arr[], int size , int target){

for(int i =0 ; i<=size; i++){

if(arr[i] == target){

return i;

}

}

return -1;

}

int main() {

int arr[] = {34,56,768,45,23};

int size = sizeof(arr)/sizeof(arr[0]);

int target = 45;

int result = linearsearch( arr, size , target);

if(result !=-1){

printf("The given target %d is present in the index %d",target,result);

}

else {

printf("The given target %d is not found in the array %d",target,result);

}

}

**Output:**

The given target 45 is present in the index 3

**Result :**

Thus implementation of function which can take array , size , target as an input to search and return the target index or -1 executed successfully.