



Green University of Bangladesh
Department of Computer Science and Engineering(CSE)
Faculty of Sciences and Engineering
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LAB REPORT NO: 01
Course Title: Data Structure Lab
Course Code: CSE 106 Section: DB

Lab Experiment Name: Implement Linear Search Algorithm

Student Details

Name		ID
1.	Shariful Islam Emon	213902056

Lab Date : 15/06/2022

Submission Date : 22/06/2022

Course Teacher's Name : Farhana Akter Sunny

[For Teachers use only: **Don't Write Anything inside this box**]

<u>Lab Report Status</u>	
Marks:	Signature:.....
Comments:.....	Date:.....

1. TITLE OF THE LAB EXPERIMENT

Implement Linear Search Algorithm

2. IMPLEMENTATION

Answer to the problem no: 1.1

Problem Statement: Write a C Program to how to take input using array

Code:

```
//shariful islam emon 213902056
#include<stdio.h>
int main()
{
    int n, arr[50];
    int i;
    printf("\t\nEnter array size:");
    scanf("%d",&n);
    printf("\nEnter the values:");
    for(i=0; i<n; i++)
        scanf("%d",&arr[i]);
    for(i=0; i<n; i++)
        printf(" %d",arr[i]);
    return 0;
}
```

Output:

A screenshot of a terminal window showing the execution of the C program. The user enters '7' for the array size and then enters the values '4 6 5 9 4 3 1' for the array elements. The program prints the elements back, and a message '[Process completed - press Enter]' is shown at the bottom.

```
Enter array size:7
Enter the values:4
6
5
9
4
3
1
4 6 5 9 4 3 1
[Process completed - press Enter]
```

Answer to the problem no: 1.2

Problem Statement: Write a C program to insert an element in array

Code:

```
//shariful islam emon 213902056

#include <stdio.h>

int main()
{
    int array[100], position, c, n, value;

    printf("Enter number of elements in array:\n");
    scanf("%d", &n);

    printf("Enter %d elements:\n", n);

    for (c = 0; c < n; c++)
        scanf("%d", &array[c]);

    printf("Enter location to insert an element:\n");
    scanf("%d", &position);

    printf("Enter insert value:\n");
    scanf("%d", &value);

    for (c = n - 1; c >= position - 1; c--)
        array[c+1] = array[c];

    array[position-1] = value;

    printf("New array:\n");

    for (c = 0; c <= n; c++)
        printf("%d\n", array[c]);

    return 0;
}
```

Output:

```
Enter number of elements in array:
5
Enter 5 elements:
9
6
4
5
8
Enter location to insert an element:
5
Enter insert value:
3456
New array:
9
6
4
5
3456
8
[Process completed - press Enter]
```

Answer to the problem no: 1.3

Problem Statement: Write a C Program to delete an element from array

Code:

```

//shariful islam emon 213902056

#include <stdio.h>

int main()
{
    int array[100], position, c, n;

    printf("Enter number of elements in array:\n");
    scanf("%d", &n);

    printf("Enter %d elements:\n", n);

    for (c = 0; c < n; c++)
        scanf("%d", &array[c]);

    printf("Enter the number of delete location:\n");
    scanf("%d", &position);

    if (position >= n+1)
        printf("Delete not possible.\n");
    else
    {
        for (c = position - 1; c < n - 1; c++)
            array[c] = array[c+1];

        printf("New array:\n");

        for (c = 0; c < n-1; c++)
            printf("%d\n", array[c]);

    }

    return 0;
}

```

Output:

```

Enter number of elements in array:
6
Enter 6 elements:
3 4 5 8 9 1
Enter the number of delete location:
6
New array:
3
4
5
8
9
[Process completed - press Enter]

```