214189E – SENARATHNA G.G.P.C.

IN 111 – Data Structures and Algorithm 1

Lab sheet – 01

01)

```c
#include <stdio.h>

void add_ele(int ,int arr[] );

void main(){
    int arr1[] = {10,14,20,34,45,8,4,3,23}; //This is a first array,
    int n;

    n = sizeof(arr1)/sizeof(arr1[0]) + 1; //calculate the new array size,

    add_ele(n ,arr1);
}

void add_ele(int x,int arr[] ){
    int arr2[x]; //This is a second array,
    int m,j = 0;

    printf("What is the position, do you want to add element: ");
    scanf("%d", &m);

    for(int i = 0;i < x;i++){
        if(i == m-1){
            printf("Input the %d position element: ", (i+1)); //index start
in 0 and position start in 1,
            scanf("%d", &arr2[i]);
        }
        else {
            arr2[i] = arr[j];
            j++;
        }
    }
    for(int i = 0;i < x;i++){
        printf("%d ", arr2[i]);
    }
}
```

02)

```c
#include <stdio.h>

void del_ele(int ,int arr[] );

void main(){
    int arr1[] = {10,14,20,34,45,8,4,3,23}; //pre-define array,
    int n;

    n = sizeof(arr1)/sizeof(arr1[0]) - 1; //size of the new array,

    del_ele(n ,arr1 );
}

void del_ele(int x,int arr[] ){
    int arr2[x]; //new array,
    int j = 0,m;

    printf("What is the position, do you want to add an element: ");
//position must 1 point more than index,
    scanf("%d", &m);

    for(int i = 0;i < x;i++){
        if(i == m-1){
            j++;
            arr2[i] = arr[j];
            j++;
        }
        else {
            arr2[i] = arr[j];
            j++;
        }
    }
    for(int i = 0;i < x;i++){
        printf("%d ", arr2[i]);
    }
}
```