DATA STRUCTURE PRACTICAL NO. :-02

AIM :- [A] : Create an array of size n and write a program to insert an element (beginning, end and specific position)

[B]:- Create an array of size n and write a program to delete an element (begining, end and specific position).

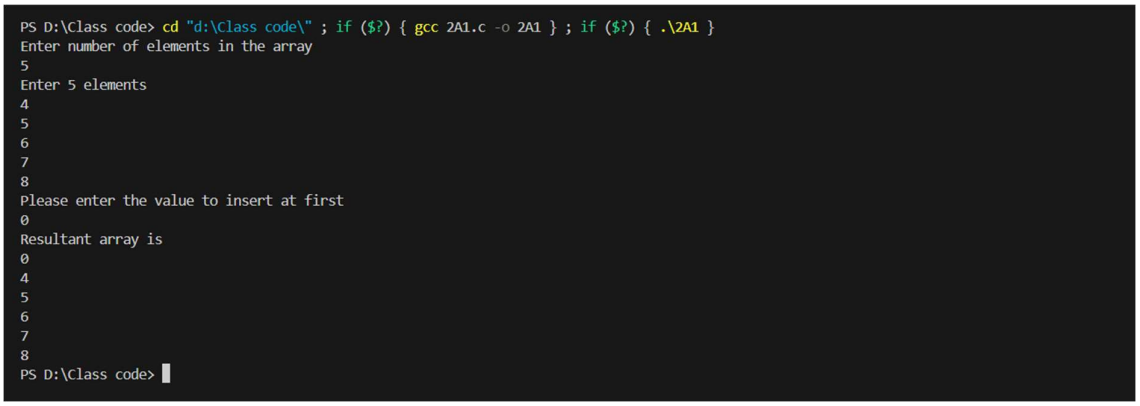
PROGRAM:-

[A] : Create an array of size n and write a program to insert an element (beginning, end and specific position)

1. beginning position

```
#include <stdio.h>

int main()
{
   int arr[50], pos, i, n, value;

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

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

   for (i = 0; i < n; i++) {
      scanf("%d", &arr[i]);
   }

   printf("Please enter the value to insert at first\n");
```

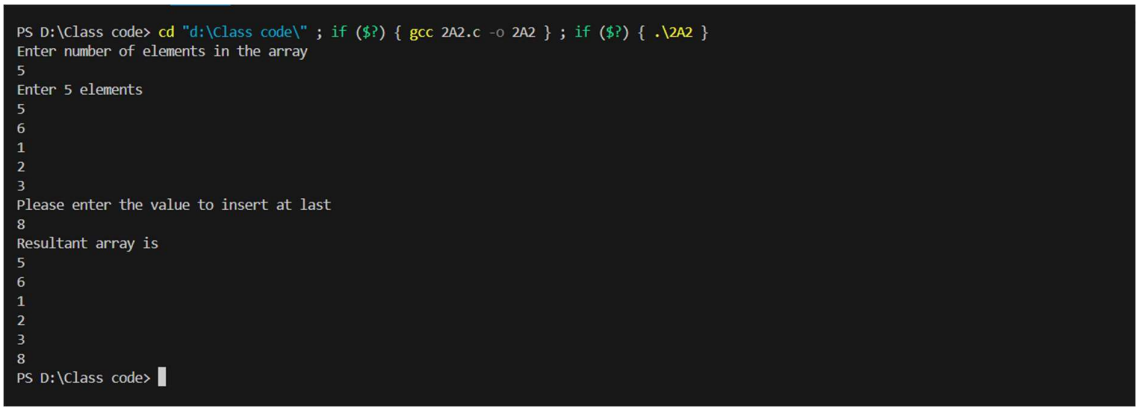
```
    scanf("%d", &value);

    for (i = n - 1; i >=0; i--){
        arr[i+1] = arr[i];
    }
    arr[0] = value;

    printf("Resultant array is\n");

    for (i = 0; i <= n; i++)  {
        printf("%d\n", arr[i]);
    }
    return 0;
}
```



2. end position

```
#include <stdio.h>

int main()
```

```
{
   int arr[50], pos, i, n, value;

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

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

   for (i = 0; i < n; i++) {
      scanf("%d", &arr[i]);
   }


   printf("Please enter the value to insert at last\n");
   scanf("%d", &value);

   arr[n] = value;

   printf("Resultant array is\n");

   for (i = 0; i <= n; i++)  {
      printf("%d\n", arr[i]);
   }
   return 0;
}
```



3. specific position

```
#include <stdio.h>

int main() {
    int a[5], n, pos, element, i;

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

    printf("Enter %d elements: ", n);
    for(i = 0; i < n; i++) {
        scanf("%d", &a[i]);
    }


    printf("Enter the position where you want to insert the element: ");
    scanf("%d", &pos);
```

```
    printf("Enter the element to be inserted: ");
    scanf("%d", &element);

    for(i = n; i >= pos; i--) {
        a[i] = a[i-1];
    }

    a[pos-1] = element;

    n++;

    printf("Array after insertion: ");
    for(i = 0; i < n; i++) {
        printf("%d ", a[i]);
    }

    return 0;
}
```

```
PS D:\Class code> cd "d:\Class code\" ; if ($?) { gcc 2A3.c -o 2A3 } ; if ($?) { .\2A3 }
Enter the number of elements in the array: 5
Enter 5 elements: 1
2
3
4
5
Enter the position where you want to insert the element: 4
Enter the element to be inserted: 6
Array after insertion: 1 2 3 6 4 5
PS D:\Class code>
```

[B]:- Create an array of size n and write a program to delete an element (begining, end and specific position).

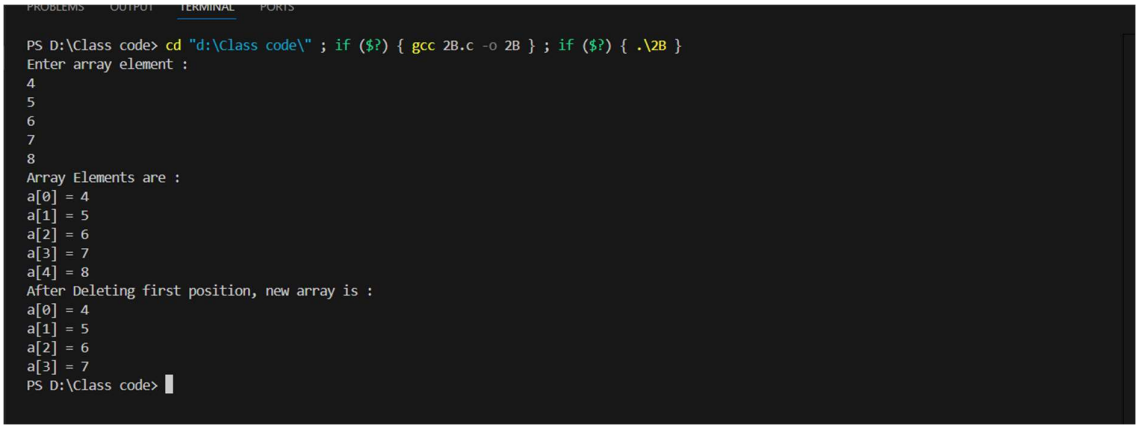
1. beginning position

```
#include<stdio.h>
void main(){
   int a[5],i;
   printf("Enter array element : \n");
   for(i=0; i<5; i++){
      scanf("%d",&a[i]);
   }
   printf("Array Elements are : \n");
   for(i=0; i<5; i++){
      printf("a[%d] = %d\n", i, a[i]);
   }
   for(i=0; i<5; i++){
      a[i] = a[i+1];
   }
   printf("After Deleting first position, new array is : \n");
   for(i=0; i<4; i++){
      printf("a[%d] = %d\n",i,a[i]);
   }
}
```

```
PS D:\Class code> cd "d:\Class code\" ; if ($?) { gcc 2B.c -o 2B } ; if ($?) { .\2B }
Enter array element :
5
4
1
2
3
Array Elements are :
a[0] = 5
a[1] = 4
a[2] = 1
a[3] = 2
a[4] = 3
After Deleting first position, new array is :
a[0] = 4
a[1] = 1
a[2] = 2
a[3] = 3
PS D:\Class code>
```

2. last position

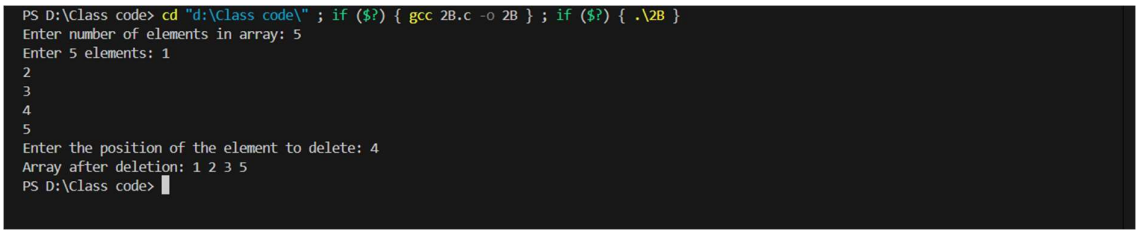
```
#include<stdio.h>
void main(){
    int a[5],i;
    printf("Enter array element : \n");
    for(i=0; i<5; i++){
        scanf("%d",&a[i]);
    }
    printf("Array Elements are : \n");
    for(i=0; i<5; i++){
        printf("a[%d] = %d\n", i, a[i]);
    }

    printf("After Deleting first position, new array is : \n");
    for(i=0; i<4; i++){
        printf("a[%d] = %d\n",i,a[i]);
    }
}
```



3. specific position

```
#include <stdio.h>

int main() {
    int arr[100], n, pos, i;

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

    printf("Enter %d elements: ", n);
    for(i = 0; i < n; i++) {
        scanf("%d", &arr[i]);
    }

    printf("Enter the position of the element to delete: ");
    scanf("%d", &pos);
```

```
    if(pos < 1 || pos > n) {
        printf("Invalid position! Please enter position between 1 and %d\n", n);
    } else {
        for(i = pos - 1; i < n - 1; i++) {
            arr[i] = arr[i + 1];
        }

        n--;
        printf("Array after deletion: ");
        for(i = 0; i < n; i++) {
            printf("%d ", arr[i]);
        }
    }

    return 0;
}
```



GITHUB LINK OF PRACTICAL No. 01 :-

https://github.com/sidheshwar2005/Data_strucutre_practical.git