

ARRAY INSERTION AND DELETION

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

PROGRAM:-

```
#include<stdio.h>

void main(){
    int i, size, insert, temp, end, posi, ele;
    int a[10];

    //Declaring the array size:-
    printf("Enter the size of an array, which can be maximum of 10 elements: ");
    scanf("%d", &size);

    //Inserting array elements:-
    printf("Enter %d elements in array.\n ",size);
    for(i=0; i<size; i++){
        scanf("%d",&a[i]);
    }

    //Inserting element at beginning in array
    printf("Enter the element to insert at beginning:\t");
    scanf("%d", &insert);

    //Inserting element at end in array
    printf("Enter the element to insert at end:\t");
    scanf("%d", &end);

    //Insertion at beginning
    size++;
    for(i=size; i>=0; i--){
```

```
a[i+1]=a[i];
}

//Insertion at beginning:-
a[0] = insert;

//Insertion at end:-
a[size] = end;

printf("\n");
//Insertion at any position
printf("Enter the position and the element:-\n");
scanf("%d \n %d",&posi, &ele);
size++;
for ( i = size; i >= posi-1; i--)
{
a[i+1] = a[i];
};
a[posi-1] = ele;

//Printing of complete array:-
for(i=0; i<=size; i++){
printf("%d\t", a[i]);
}
}
```

OUTPUT

```

PROBLEMS  OUTPUT  DEBUG CONSOLE  TERMINAL  PORTS
PS C:\Users\Shreyash\Desktop\Data_Structure_Project_Second_Year> cd "c:\Users\Shreyash\Desktop\Data_Structure_Project_Second_Year"
PS C:\Users\Shreyash\Desktop\Data_Structure_Project_Second_Year> cd "c:\Users\Shreyash\Desktop\Data_Structure_Project_Second_Year\" ; if ($?) { gcc pra_2.c -o pra_2 } ; if ($?) { gcc pra_2.c -o pra_2 } ; if ($?) { gcc pra_2.c -o pra_2 }
Enter the size of an array, which can be maximum of 10 elements: 5
Enter 5 elements in array.
1
2
3
4
5
Enter the element to insert at beginning: 6
Enter the element to insert at end: 7

Enter the position and the element:-
3
8
6 1 8 2 3 4 5 7
PS C:\Users\Shreyash\Desktop\Data_Structure_Project_Second_Year>

```

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

PROGRAM:-

```
#include<stdio.h>
```

```
void main(){
```

```
int i, size, delete, temp, end, posi, ele;
```

```
int a[10];
```

```
//Declaring the array size:-
```

```
printf("Enter the size of an array, which can be maximum of 10 elements: ");
```

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

```
//Inserting array elements:-
```

```
printf("Enter %d elements in array.\n ",size);
```

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

```
    scanf("%d",&a[i]);
```

```
}
```

```
//Deleting element at beginning in array  
printf("Deleting element at beginning...\n");
```

```
//Deleting element at end in array  
printf("Deleting element at end...\n");
```

```
//Deleting at beginning
```

```
size--;
```

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

```
    a[i]=a[i+1];
```

```
}
```

```
//Deleting at beginning:-
```

```
delete = a[0];
```

```
size--;
```

```
//Deleting at end:-
```

```
end = a[size];
```

```
size--;
```

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

```
    printf("%d\t", a[i]);
```

```
}
```

```
printf("\n");
```

```
//Deleting at any position
```

```
printf("Enter the position :-\n");
```

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

```
posi--;
```

```

for (i = posi; i <size; i++)
{
    a[i] = a[i+1];

}
ele = a[posi-1];
size--;

//Printing of complete array:-
for(i=0; i<=size; i++){
    printf("%d\t", a[i]);
}
}

```

OUTPUT

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS

Code + - [] [] ... v X

```

PS C:\Users\Shreyash\Desktop\Data_Structure_Project_Second_Year> cd "c:\Users\Shreyash\Desktop\Data_Structure_Project_Second_Year"
PS C:\Users\Shreyash\Desktop\Data_Structure_Project_Second_Year> cd "c:\Users\Shreyash\Desktop\Data_Structure_Project_Second_Year\" ; if ($?) { gcc
pra2_2.c -o pra2_2 } ; if ($?) { .\pra2_2 }
Enter the size of an array, which can be maximum of 10 elements: 5
Enter 5 elements in array.
1
2
3
4
5
Deleting element at beginning...
Deliting element at end...
2    3    4
Enter the position :-
2
2    4
PS C:\Users\Shreyash\Desktop\Data_Structure_Project_Second_Year>

```