

```
#include<iostream>
using namespace std;
#define MAX 10

void create();
void insert();
void deletion();
void search();
void display();
int a,b[20], n, p, e, f, i, pos;

int main()
{
int ch;
char g='y';

do
{
cout<<"\n main Menu";
cout<<"\n 1.Create \n 2.Delete \n 3.Search \n 4.Insert \n 5.Display\n 6.Exit \n";
cout<<"\n Enter your Choice:";
cin>>ch;

switch(ch)
{
case 1:
create();
break;

case 2:
deletion();
break;

case 3:
search();
break;

case 4:
insert();
break;

case 5:
display();
```

```
break;
```

```
case 6:
```

```
exit(0);
```

```
break;
```

```
default:
```

```
cout<<"\n Enter the correct choice:";
```

```
}
```

```
cout<<"\n Do u want to continue:::";
```

```
cin>>g;
```

```
}
```

```
while(g=='y' || g=='Y');
```

```
}
```

```
void create()
```

```
{
```

```
cout<<"\n Enter the number of nodes:";
```

```
cin>>n;
```

```
for(i=0;i<n;i++)
```

```
{
```

```
cout<<"\n Enter the Elements:";
```

```
cin>>b[i];
```

```
}
```

```
}
```

```
void deletion()
```

```
{
```

```
cout<<"\n Enter the position u want to delete:::";
```

```
cin>>pos;
```

```
if(pos>=n)
```

```
{
```

```
cout<<"\n Invalid Location:::";
```

```
}
```

```
else
```

```
{
```

```
for(i=pos+1;i<n;i++)
```

```
{
```

```
b[i-1]=b[i];
```

```
}
```

```
n--;
```

```

}
cout<<"\n The Elements after deletion";
for(i=0;i<n;i++)
{
cout<<b[i]<<" ";
}
}

```

```

void search()
{
cout<<"\n Enter the Element to be searched:";
cin>>e;

```

```

for(i=0;i<n;i++)
{
if(b[i]==e)
{
cout<<"Value is in the "<<i<<" Position";
}
else
{
cout<<"Value "<< e<<" is not in the list::";
continue;
}
}
}

```

```

void insert()
{
cout<<"\n Enter the position u need to insert::";
cin>>pos;

```

```

if(pos>=n)
{
cout<<"\n invalid Location::";
}
else
{
for(i=MAX-1;i>=pos-1;i--)
{
b[i+1]=b[i];
}
}

```

```
cout<<"\n Enter the element to insert:\n";
cin>>p;
b[pos]=p;
n++;
}
```

```
cout<<"\n The list after insertion:\n";
```

```
display();
}
```

```
void display()
{
cout<<"\n The Elements of The list ADT are:";
for(i=0;i<n;i++)
{
cout<<"\n\n"<<b[i];
}
}
```

## Insertion in a Static List

```
#include <iostream>

using namespace std;
#define SIZE 10
void insertatend (int *n, int arr[]){
    int data,i;
    cout<<"Enter the data"<<endl;
    cin>>data;

    for(i=0;i<*n;i++);
    arr[i]=data;
    *n=*n+1;
}
void insertatpos(int *n, int arr[]){
    int pos,i,data;
    cout<<"Enter the position you want to enter\n";
    cin>>pos;
    cout<<"Enter the data"<<endl;
    cin>>data;
    for(i=0;i<*n;i++);
    while(i>=pos){
        arr[i]=arr[i-1];
        i--;
    }
    arr[i]=data;
    *n=*n+1;
}
void display(int arr[], int n){
    cout<<"Data are\n";
    for(int i=0;i<n;i++){
        cout<<arr[i]<<" ";
    }
}
int main()
{
    int arr[SIZE],n;
    cout<<"Enter the no. of terms:"<<endl;
    cin>>n;
    for(int i=0;i<n;i++){
        cout<<"Data ["<<i+1<<"]"<<endl;
        cin>>arr[i];
    }
}
```

```
}  
  
display(arr,n);  
insertatend(&n,arr);  
display(arr,n);  
insertatpos(&n,arr);  
display(arr,n);  
return 0;  
}
```