

```
#include<iostream>
```

```
using namespace std;
```

```
const int MAX = 20;
```

```
class student
```

```
{
```

```
    int n;
```

```
    int rollno[MAX];
```

```
public:
```

```
    void accept(int num);
```

```
    bool linearsearch(int key);
```

```
    bool binarysearch(int key);
```

```
};
```

```
void student::accept(int num)
```

```
{
```

```
    n=num;
```

```
    cout<<"Enter "<<num<<" roll numbers of student:"<<endl;
```

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

```
    {
```

```
        cin>>rollno[i];
```

```
    }
```

```
}
```

```
bool student::linearsearch(int key)
```

```
{  
    for(int i=0;i<n;i++)  
    {  
        if(rollno[i]==key)  
            return true;  
    }  
    return false;  
}
```

```
bool student::binarysearch(int key)
```

```
{  
    int mid;  
    int low=0;  
    int high=n-1;  
    while(low<=high)  
    {  
        mid=(low+high)/2;  
        if(key==rollno[mid])  
            return true;  
        if(key<mid)  
            high=mid-1;  
        else  
            low=mid+1;  
    }
```

```

        return false;
    }

int main()
{
    student s;

    int n,key,choice;

    do
    {
        cout<<"*****MENUE*****";

        cout<<"\n1.Linear Search";

        cout<<"\n2.Binary Search";

        cout<<"\n3.Exit";

        cout<<"\nEnter your choice:";

        cin>>choice;

        switch(choice)
        {
            case 1:

                cout<<"Enter numbers of students:"<<endl;

                cin>>n;

                s.accept(n);

                cout<<"Enter roll no. to be searched:"<<endl;

                cin>>key;

                if(s.linearsearch(key))
                {

```

```
        cout<<"Roll no. "<<key<<" found"<<endl;
    }
    else
    {
        cout<<"Roll no. "<<key<<" not found"<<endl;
    }
    break;
```

case 2:

```
    cout<<"Enter numbers of students:"<<endl;
    cin>>n;
    s.accept(n);
    cout<<"Enter roll no. to be searched:"<<endl;
    cin>>key;
    if(s.binarysearch(key))
    {
        cout<<"Roll no. "<<key<<" found"<<endl;
    }
    else
    {
        cout<<"Roll no. "<<key<<" not found"<<endl;
    }
    break;
```

case 3:

cout<<"Exiting program..."<<endl;

break;

default:

cout<<"Enter valid choice!!!"<<endl;

}

}

while(choice!=3);

return 0;

}