**Assignment No.12(Searching techniques).**

#include <iostream>

#include<algorithm>

using namespace std;

class attendence{

public:

void binary(){

int cnt,a[20],mid=0,i=0,j=0,key;

cout<<endl<<"Enter count of roll numbers:";

cin>>cnt;

cout<<endl<<"Enter Roll numbers:";

for(int i=0;i<cnt;i++){

cin>>a[i];}

sort(a,a+cnt);

i=0;

j=cnt-1;

mid=(i+j)/2;

int flag=0;

cout<<endl<<"Enter Roll number that you want to search:";

cin>>key;

while(a[mid]!=key&&i<=j){

if(key>a[mid]){

i=mid+1;}

else if(key<a[mid]){

j=mid-1;}

mid=(i+j)/2; }

if(a[mid]==key){

cout<<endl<<"This roll number is present for training program!";

}else{

cout<<endl<<"This roll number is absent!"; }

}

void Linear(){

int eles[20],key,n,flag=0,index=0;

cout<<"Enter count of roll numbers:";

cin>>n;

cout<<"Enter Roll numbers:";

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

cin>>eles[i];}

cout<<"Enter Roll number that you want to search:";

cin>>key;

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

if(eles[i]==key){

flag=1;

index=i;}}

if(flag==1){

cout<<endl<<"This roll number is present for training program"<<index; }

else{

cout<<endl<<"This roll number is absent!";}}

};

int main() {

attendence a1;

int ch;

do{

cout<<endl<<"\*\*\*\*\*\*\*\*Searching techniques\*\*\*\*\*\*\*\*\*";

cout<<endl<<"1.Binary search\n2.Linear search..\n3.break";

cout<<endl<<"Enter your choice that you want to apply on roll numbers to find perticular rollno:";

cin>>ch;

switch(ch){

case 1:

a1.binary();

break;

case 2:

a1.Linear();

break;

case 3:

break;

default:

cout<<"Wrong choice....";

}

}while(ch!=3);

return 0;

}

**Output:**

\*\*\*\*\*\*\*\*Searching techniques\*\*\*\*\*\*\*\*\*

1.Binary search

2.Linear search..

3.break

Enter your choice that you want to apply on roll numbers to find perticular rollno:1

Enter count of roll numbers:6

Enter Roll numbers:34 56 78 90 21 44

Enter Roll number that you want to search:45

This roll number is absent!

\*\*\*\*\*\*\*\*Searching techniques\*\*\*\*\*\*\*\*\*

1.Binary search

2.Linear search..

3.break

Enter your choice that you want to apply on roll numbers to find perticular rollno:1

Enter count of roll numbers:6

Enter Roll numbers:1 2 34 56 78 90

Enter Roll number that you want to search:78

This roll number is present for training program!

\*\*\*\*\*\*\*\*Searching techniques\*\*\*\*\*\*\*\*\*

1.Binary search

2.Linear search..

3.break

Enter your choice that you want to apply on roll numbers to find perticular rollno:2

Enter count of roll numbers:5

Enter Roll numbers:1 2 3 4 5

Enter Roll number that you want to search:55

This roll number is absent!

\*\*\*\*\*\*\*\*Searching techniques\*\*\*\*\*\*\*\*\*

1.Binary search

2.Linear search..

3.break

Enter your choice that you want to apply on roll numbers to find perticular rollno:2

Enter count of roll numbers:5

Enter Roll numbers:1 2 3 4 5

Enter Roll number that you want to search:4

This roll number is present for training program!!