**PROGRAM:**

#include<iostream>

using namespace std;

class ternary

{

private:

int a[20];

int front , last, n, fp, sp , key;

public:

void accept();

void acceptkey();

void sort();

void search();

};

void ternary::accept()

{

cout<<"\nEnter the size of the array\n";

cin>>n;

cout<<"\nEnter the elements of the array\n";

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

{

cin>>a[i];

}

}

void ternary:: acceptkey()

{

cout<<"\nEnter the element you want to search\n";

cin>>key;

}

void ternary:: sort()

{

int temp;

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

{

for(int j=0;j<n-1;j++)

{

if(a[j]>a[j+1])

{

temp=a[j];

a[j]=a[j+1];

a[j+1]=temp;

}

}

}

}

void ternary:: search()

{

int flag=0;

front=0;

last=n-1;

for(int i=front;i<=last;i++)

{

fp=front+(last-front)/3;

sp=last-(last-front)/3;

if(key==a[fp])

{

flag++;

cout<<"\nThe element is present in the list\n";

break;

}

if(key==a[sp])

{

flag++;

cout<<"\nThe element is present in the list\n";

break;

}

if(key<a[fp])

{

last=fp-1;

continue;

}

if(key>a[fp]&&key<a[sp])

{

front=fp+1;

last=sp-1;

continue;

}

if(key>a[sp])

{

front=sp+1;

continue;

}

}

if(flag==0)

{

cout<<"\nThe element is not present\n";

}

}

int main()

{

char k;

ternary t;

cout<<"\n\n\n----------TERNARY SEARCH----------\n\n\n";

t.accept();

do

{

t.acceptkey();

t.sort();

t.search();

cout<<"\ndo you want to continue?(y/n)\n";

cin>>k;

}while(k=='Y' || k=='y');

}

**OUTPUT:**

----------TERNARY SEARCH----------

Enter the size of the array

7

Enter the elements of the array

1

7

5

22

33

66

99

Enter the element you want to search

22

The element is present in the list

do you want to continue?(y/n)

y

Enter the element you want to search

10

The element is not present

do you want to continue?(y/n)

y

Enter the element you want to search

7

The element is present in the list

do you want to continue?(y/n)

n