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**Practical Name: Write a program to implement Binary search Batch: B3**

#include<iostream>

using namespace std;

class Array

{

int A[10],N;

int K,item;

public:

void Get();

void Sort();

void BSearch();

};

void Array::Get()

{

cout<<"Enter the length of element:";

cin>>N;

cout<<"Enter element:";

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

{

cin>>A[i];

}

}

void Array::Sort()

{

int temp,i,j;

for(i=0;i<N;i++)

{

for(j=i+1;j<N;j++)

{

if(A[i]>A[j])

{

temp=A[i];

A[i]=A[j];

A[j]=temp;

}

}

}

cout<<"\nElement after sorting:";

for(i=0;i<N;i++)

{

cout<<A[i]<<"\t";

}

}

void Array::BSearch()

{

int Beg=0,End=N;

int Mid=(Beg+End)/2;

int Loc;

cout<<"\nEnter element to search:";

cin>>item;

while(Beg<=End&&A[Mid]!=item)

{

if(item<A[Mid])

{

End-Mid-1;

}

else

{

Beg-Mid+1;

}

Mid=(Beg+End)/2;

}

if(A[Mid]=item)

{

Loc=Mid;

cout<<"item is on "<< Loc+1 <<" Location\n\n";

}

else

{

Loc=NULL;

cout<<"Element is not found";

}

}

int main()

{

Array a;

a.Get();

a.Sort();

a.BSearch();

return 0;

}

**OUTPUT:**

Enter the length of element:4

Enter element:20 10 50 80

Element after sorting:10 20 50 80

Enter element to search:50

item is on 3 Location

=== Code Execution Successful ===