

5. Write a C++ Program to search an element using binary search technique.

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#include<iostream.h>
#include<iomanip.h>
#include<conio.h>
void getdata();
int a[15],n;
void sort();
void bsearch();
void getdata()
{
    int i;
    cout<<"Enter the range:"<<endl;
    cin>>n;
    cout<<"Enter the elements:"<<endl;
    for(i=0;i<n;i++)
        cin>>a[i];
}
void sort()
{
    int i,j,temp;
    for(i=1;i<=n-1;i++)
    {
        for(j=0;j<=n-i-1;j++)
            if(a[j]>a[j+1])
            {
                temp=a[j];
                a[j]=a[j+1];
                a[j+1]=temp;
            }
    }
    cout<<"Elements in sorted order are"<<endl;
    for(i=0;i<n;i++)
        cout<<setw(5)<<a[i]<<endl;
}
void bsearch()
{
    int key,mid,flag=0,lb=0,ub=n-1;
    cout<<"Enter the element to searched"<<endl;
    cin>>key;
    lb=0; ub=n-1;
    while(lb<=ub)
    {
        mid=(lb+ub)/2;
        if(a[mid]==key)
        {
            flag=1;
        }
    }
}
```

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        break;
    }
    if(key>a[mid])
        lb=mid+1;
    else
        ub=mid-1;
    }
    if(flag==1)
    {
        cout<<" Element is found at " " " <<mid+1<<" ""position"<<endl;
    }
    else
        cout<<" ""element not found"<<endl;
}
void main()
{
    clrscr();
    getdata();
    sort();
    bsearch();
    getch();
}

```