```
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   ROLL.NO         :39
   DATE            :22/9/22
   PROGRAM         :BINARY SEARCH
   INSTITUTION     :MES COLLEGE OF ENGINEERING */


#include<stdio.h>
void main()
{
        int a[100],n,x,i,j,flag=0,l=0,u,t,mid,c;
        printf("Enter the number of elements");
        scanf("%d",&n);
        printf("Enter the numbers");
        for(i=0;i<n;i++)
                scanf("%d",&a[i]);
        for(i=0;i<n-1;i++)
        {
                for(j=i+1;j<n;j++)
                {
                        if(a[i]>a[j])
                        {
                                t=a[i];
                                a[i]=a[j];
                                a[j]=t;
                        }
                }
        }
        printf("Sorted array is :\n");
        for(i=0;i<n;i++)
                printf("%d\t",a[i]);
        while(flag!=1)
        {
                l=0;
                u=n-1;
                printf("\nEnter the number you want to search:\n ");
                scanf("%d",&x);
                while(l<=u)
                {
                        mid=(l+u)/2;
                        if(a[mid]==x)
                        {
                                printf("\nposition of the given number is %d\n",mid+1);
                                break;
                        }
                        else if(a[mid]<x)
                        {
                                l=mid+1;
                        }
                        else
                        {
                                u=mid-1;
                        }
                }
                if(l>u)
                        printf("\n not found\n");
                printf("\ndo you want to continue?(1 for yes / 2 for no)\n");
```

```
scanf("%d",&c);
                        if(c!=1)
                                flag=1;
        }
}
```

Output :-

```
Enter the number of elements
4
Enter the numbers
15
11
9
16
Sorted array is :
9       11      15      16
Enter the number you want to search:
15
position of the given number is 3

do you want to continue?(1 for yes / 2 for no)
1
Enter the number you want to search:
14
not found

do you want to continue?(1 for yes / 2 for no)
2
```