S.No: 2	Exp. Name: ***Program for Recursive Binary Search***	Date:

Aim:

Program for Recursive Binary search

Source Code:

binaryrSearch.c

```
#include<stdio.h>
void binarySearch(int[], int, int ,int);
int main()
{
   int key,size,i;   int arr[50];
   printf("Enter number of elements: ");
   scanf("%d",&size);
   printf("Enter the sorted array: ");
   for(int i=0;i<size;i++)
   {
      scanf("%d",&arr[i]);
   }
   printf("enter the item to be search: ");
   scanf("%d",&key);
   binarySearch(arr,0,size,key);

}
void binarySearch(int arr[], int lo, int hi, int key)
{
   int mid;
   if(lo>hi)
   {
      printf("item not present");
      return;
      }
      mid=(lo+hi)/2;
      if(arr[mid]==key)
      {
         printf("item present");
         }
         else if (arr[mid]>key)
         {
            binarySearch(arr,lo,mid-1,key);
            }
            else if(arr[mid]<key)
            {
               binarySearch(arr,mid+1,hi,key);
               }

}
```

Execution Results - All test cases have succeeded!

Test Case - 1
User Output
Enter number of elements: 5
Enter the sorted array: 1 12 22 32 45
enter the item to be search: 12
item present

Test Case - 2
User Output
Enter number of elements: 2
Enter the sorted array: 0 12
enter the item to be search: 1
item not present