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/* Online C Compiler and Editor */
//Linear Search using recursive function in
  c language
#include <stdio.h>
int l_search(int a[],int x,int n)
{  if(n<0)
    | return -1;
    else if(a[n]==x)
    return n;
    else
return l_search(a,x,n+1);
}
int main() {
    // Write C code here
    int a[10],x,n,item,i;
    printf("Total elements:");
    scanf("%d",&n);
    printf("Enter array element:");
    for(i=0;i<n;i++)
    scanf("%d",&a[i]);
    printf("Enter element to be search:");
    scanf("%d",&x);
    item=l_search(a,x,0);
    if(item==-1)
    printf("Element not present");
    else
    printf("Present at %d",item+1);
    return 0;
}

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Total elements:6
Enter array element:12 23 34 45 56 68
Enter element to be search:12
Present at 1|

```

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2 //Linear Search using recursive function in
  c language
3 #include <stdio.h>
4 int l_search(int a[],int x,int n)
5 { if(n<0)
6     return -1;
7     else if(a[n]==x)
8         return n;
9     else
10         return l_search(a,x,n-1);
11 }
12 int main() {
13     // Write C code here
14     int a[10],x,n,item,i;
15     printf("Total elements:");
16     scanf("%d",&n);
17     printf("Enter array element:");
18     for(i=0;i<n;i++)
19         scanf("%d",&a[i]);
20     printf("Enter element to be search:");
21     scanf("%d",&x);
22     item=l_search(a,x,n-1);
23     if(item==-1)
24         printf("Element not present");
25     else
26         printf("Present at %d",item+1);
27     return 0;
28 }

```

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Total elements:5
Enter array element:12 23 34 45 56
Enter element to be search:89
Element not present

```

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1 //BINARY SEARCH USING RECURSIVE FUNCTION
2 #include <stdio.h>
3 int b_search(int a[10],int x,int high,int
    low)
4 {int mid;
5     mid=(low+high)/2;
6     if (a[mid]==x)
7         return mid;
8     else if (a[mid]<x)
9         return b_search(a,x,mid+1,high);
10    else
11        return b_search (a,x,mid-1,low);
12 }
13 int main() {
14     int n,i,a[10],x,median,l=0,c;
15     do
16     {
17         printf("\nTotal no. of elements:");
18         scanf("%d",&n);
19         printf("Enter array:");
20         for(i=0;i<n;i++)
21             scanf("%d",&a[i]);
22         printf("Enter searching element:");
23         scanf("%d",&x);
24         median=b_search (a,x,n-1,l);
25         printf("Element present at %d",median+1
26             );
27         printf("\n\nEnter '1' for continue else
28             '0':");
29         scanf("%d",&c);
30         }while(c==1);
31     return 0;
32 }

```

Total no. of elements:5

Enter array:12 23 34 45 56

Enter searching element:34

Element present at 3

Enter '1' for continue else '0':1

Total no. of elements:6

Enter array:12 22 34 45 56 68

Enter searching element:68

Element present at 6

Enter '1' for continue else '0':1

Total no. of elements:3

Enter array:89 90 99

Enter searching element:89

Element present at 1

Enter '1' for continue else '0':0

```

#include <stdio.h>
int b_search(int a[10],int x,int high,int low)
{int mid;
  mid=(low+high)/2;
  if (a[mid]==x)
    return mid;
  else if (a[mid]<x)
    return b_search(a,x,mid+1,high);
  else
    return b_search (a,x,mid-1,low);
}
int main() {
  int n,i,a[10],x,median,l=0,c;
  do
  {
    printf("\nTotal no. of elements:");
    scanf("%d",&n);
    printf("Enter array:");
    for(i=0;i<n;i++)
      scanf("%d",&a[i]);
    printf("Enter searching element:");
    scanf("%d",&x);
    median=b_search (a,x,n-1,l);
    printf("Element present at %d",median+1);
    printf("\n\nEnter '1' for continue else '0'
          :");
    scanf("%d",&c);
  }while(c==1);

  return 0;
}

```

```

Total no. of elements:5
Enter array:12 23 34 45 56
Enter searching element:56
Element present at 5

Enter '1' for continue else '0':1
Total no. of elements: 6

Enter array:12 23 34 45 56 68
Enter searching element:23
Element present at 2

Enter '1' for continue else '0':1
Total no. of elements:4
Enter array:12 23 34 45
Enter searching element:23
Element present at 2

Enter '1' for continue else '0':1
Total no. of elements:5
Enter array:12 67 89 90 99
Enter searching element:89
Element present at 3

Enter '1' for continue else '0':0

```