DATA STRUCTURES-CSA0396

9. Write a C program to search a number using Binary Search method

CODING:

```
#include<stdio.h>
void main()
{

   int a[10],i,n,item,flag=0,low,high,mid;
   printf("\n  Enter the size of an array: ");
   scanf("%d",&n);

   printf("\n  Enter the elements in ascending order: ");
   for(i=0;i<n;i++)
   {
      scanf("%d",&a[i]);
   }

   printf("\n  Enter the number to be search: ");
   scanf("%d",&item);

   low=0,high=n-1;
   while(low<=high)
   {
      mid=(low+high)/2;
      if(item==a[mid])
      {
         flag=1;
         break;
      }
```

```
    else if(item<a[mid])
    {
       high=mid-1;
    }
    else
    low=mid+1;
  }
  if(flag==0)
  printf("\n  The number is not found");
  else
  printf("\n  The number is found and its position is: %d",mid+1);
}
```

OUTPUT: