```c
#include <stdio.h>
void main()
{
    int lt, i, temp, count = 0;
    count++;
    printf("enter the limit of the array:");
    scanf("%d", &lt);
    count++;
    int Arr[lt];
    printf("enter the elements :");
    for (i = 0; i < lt; i++)
    {
        count++;
        scanf("%d", &Arr[i]);
        count++;
    }
    /*count++;*/
    for (i = 0; i < lt; i++)
    {
        count++;
```

```c
    for (int j = i + 1; j < lt; j++)
    {
        count++;
        if (Arr[i] > Arr[j])
        {
            count++;
            temp = Arr[i];
            Arr[i] = Arr[j];
            Arr[j] = temp;
            count += 3;
        }
        /*count++;*/
    }
    /*count++;*/
}
/*count++;*/
printf("the sorted array :");

for (i = 0; i < lt; i++)
{
```

```c
        count++;
        printf("%d ", Arr[i]);
        count++;
    }
    /*count++;*/
    printf("\n");
    int num, left = 0, right = lt - 1, middle
= (left + right) / 2;
    count++;
    count++;
    count++;
    printf("enter the element to be
searched :");
    scanf("%d", &num);
    count++;
    int flag = 0, pos;
    count++;
    count++;

    if (num < Arr[middle])
```

```c
{
    count++;
    right = middle - 1;
    count++;
    for (i = 0; i <= right; i++)
    {
        count++;
        if (num == Arr[i])
        {
            count++;
            pos = i;
            flag = 1;
            count++;
            count++;
            break;
        }
        /*count++;*/
    }
    /*count++;*/
}
```

```c
/*count++;*/
if (num == Arr[middle])
{
    count++;
    middle = pos;
    flag = 1;
    count++;
    count++;
}
/*count++;*/

if (num > Arr[middle])
{
    count++;
    left = middle + 1;
    count++;
    for (i = left; i <= right; i++)
    {
        count++;
        if (num == Arr[i])
```

```c
        {
            count++;
            pos = i;
            flag = 1;
            count++;
            count++;
            break;
        }
        /*count++;*/
    }
    /*count++;*/
}
/*count++;*/

if (flag == 0)
{
    count++;
    printf("the element is not found in
the given array\n");
}
```

```c
    /*count++;*/

   if(flag==1)
   {
      count++;
      printf("the element is found at
position %d\n", pos);
   }
   /*count++;*/

   count++;
   count++;
   printf("time complexity of the
program is :%d\n", count);
   printf("space complexity of the
program is :%d\n", 11 * 4 + (lt * 4));
}
```