

PROGRAM FOR BUBBLE SORT

```
1    #include <stdio.h>
2
3    void main()
4    {
5        int i,j,temp,n,a[20],t=0;
6        t++;
7        printf("enter the value of n\n");
8        t++;
9        scanf("%d",&n);
10       t++;
11       printf("enter the element\n");
12       t++;
13
14       for(i=0;i<n;i++)
15       {
16           t++;
17           scanf("%d",&a[i]);
18           t++;
19       }
20       t++;
21
```

```
22     for(i=0;i<n-1;i++)
23     {
24         t++;
25         for(j=0;j<n-i-1;j++)
26         {
27             t++;
28             if(a[j]>a[j+1])
29             {
30                 t++;
31                 temp=a[j];
32                 a[j]=a[j+1];
33                 a[j+1]=temp;
34             }
35             t++;
36         }
37         t++;
38     }
39
40     t++;
41     printf("the sorted elements are\n");
42     t++;
43
44     for(i=0;i<n;i++)
```

```
45      {
46          t++;
47          printf("%d\t",a[i]);
48          t++;
49      }
50      t++;
51      printf("\nspace complexity=%d\n",5*4+(4*n));
52      t++;
53      t++;
54      printf("time complexity=%d\n",t);
55 }
```