

Insertion Sort

- repeatedly inserts an element in an already sorted array in its corrected position

```
#include<stdio.h>
```

```
int main()
```

```
{
```

```
    int n,i,j,t;
```

```
    scanf("%d",&n);
```

```
    int a[n];
```

```
    for(i=0 ; i<n ; i++)
```

```
    {
```

```
        scanf("%d",&a[i]);
```

```
    }
```

```
    for(i=1 ; i<=n-1 ; i++)
```

```
    {
```

```
        t = a[i];
```

```
        for(j=i-1 ; j>=0 ; j--)
```

```
        {
```

```
            if(a[j] > t)
```

```
            {
```

```
                a[j+1] = a[j];
```

```
            }
```

```
            else
```

```
            {
```

```
                break;
```

```
            }
```

```
        }
```

```
        a[j+1] = t;
```

```
    }
```

```
    for(i=0 ; i<n ; i++)
```

```
    {
```

```
        printf("%d ",a[i]);
```

```
    }
```

```
}
```