

Insertion Sort

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

```
#include <time.h>
```

```
#include <stdlib.h>
```

```
void sort(int a[], int n)
```

```
{  
    int main()
```

```
{
```

```
    clock_t t;
```

```
    int n;
```

```
    printf("Enter Number of element n");
```

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

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

```
    printf("Enter element of array n");
```

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

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

```
    t = clock();
```

```
    sort(a, n);
```

```
    t = clock() - t;
```

```
    double time_taken = ((double)t) / CLOCKS_PER_SEC;
```

```
    printf("Time taken = %d\n", time_taken);
```

```
    printf("Final Sorted order\n");
```

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

```
{
```

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

```
}
```

```
}
```



```
void sort(int a[], int n)
{
```

```
    int v, j;
```

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

```
        v = a[i];
```

```
        j = i - 1;
```

```
        while (j >= 0 && a[j] > v)
```

```
        {
```

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

```
            j = j - 1;
```

```
        }
```

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

```
    }
```

```
}
```