

Insertion Sort

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

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

```
void InsertionSort (int arr[], int n)
```

```
{
```

```
    int i, key, j;
```

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

```
    {
```

```
        key = arr[i];
```

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

```
        while (j >= 0 & arr[j] > key)
```

```
        {
```

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

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

```
        }
```

```
        arr[j+1] = key;
```

```
    }
```

```
}
```

```
void printarray (int arr[], int n)
```

```
{
```

```
    int i;
```

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

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

```
        printf ("\n");
```

```
int main ()
```

```
{
```

```
    int arr[] = {2, 3, 4, 5, 6};
```

```
int n = sizeof(arr) / sizeof(arr[0]);  
scanf ("%d", &n);  
clock_t start, end;  
double time_u;  
start = clock();  
time_u = (double)(end - start) / (CLOCKS_PER_SEC);  
printf ("time complexity = %f s", time_u);  
return 0;  
}
```