

```
#include<iostream>
```

```
#define N 10
```

```
using namespace std;
```

```
//función de ordenamiento con Quicksort
```

```
void quicksort(int a[],int primero, int ultimo){
```

```
    int c,i,j,aux,pivote;
```

```
    i=primero;
```

```
    j=ultimo;
```

```
    c=(primero+ultimo)/2;
```

```
    pivote=a[c];
```

```
    do{
```

```
        → while(a[i]<pivote) i++;
```

```
        → while(a[j]>pivote) j--;
```

```
        if(i<=j){
```

```
            aux=a[i];
```

```
            a[i]=a[j];
```

```
            a[j]=aux;
```

```
            i++;
```

```
            j--;
```

```
        }
```

```
    }while(i<=j);
```

```
    if(primero<j)
```

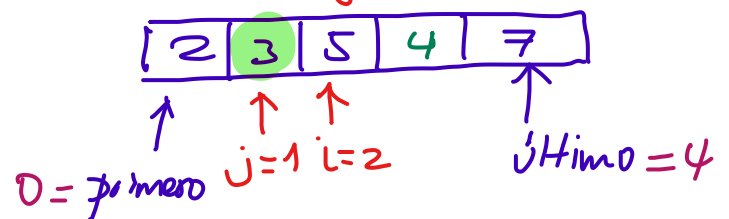
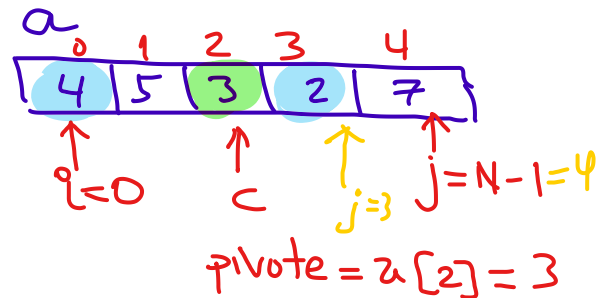
```
        quicksort(a,primero,j);
```

```
    if(i<ultimo)
```

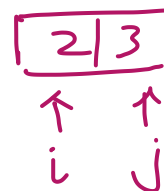
```
        quicksort(a,i,ultimo);
```

```
}
```

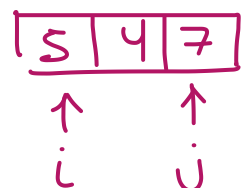
$quicksort(a, 0, N-1)$



$quicksort(a, 0, 1)$



$quicksort(a, 2, 4)$



//función principal o de ejecución

```
int main(){  
  
    int A[N]={7,3,4,1,0,5,-1,7,9,2};  
    for(int i=0;i<N;i++)  
        cout<<A[i]<<" ";  
    quicksort(A,0,N-1);  
    cout<<endl;  
    for(int i=0;i<N;i++)  
        cout<<A[i]<<" ";  
  
}
```