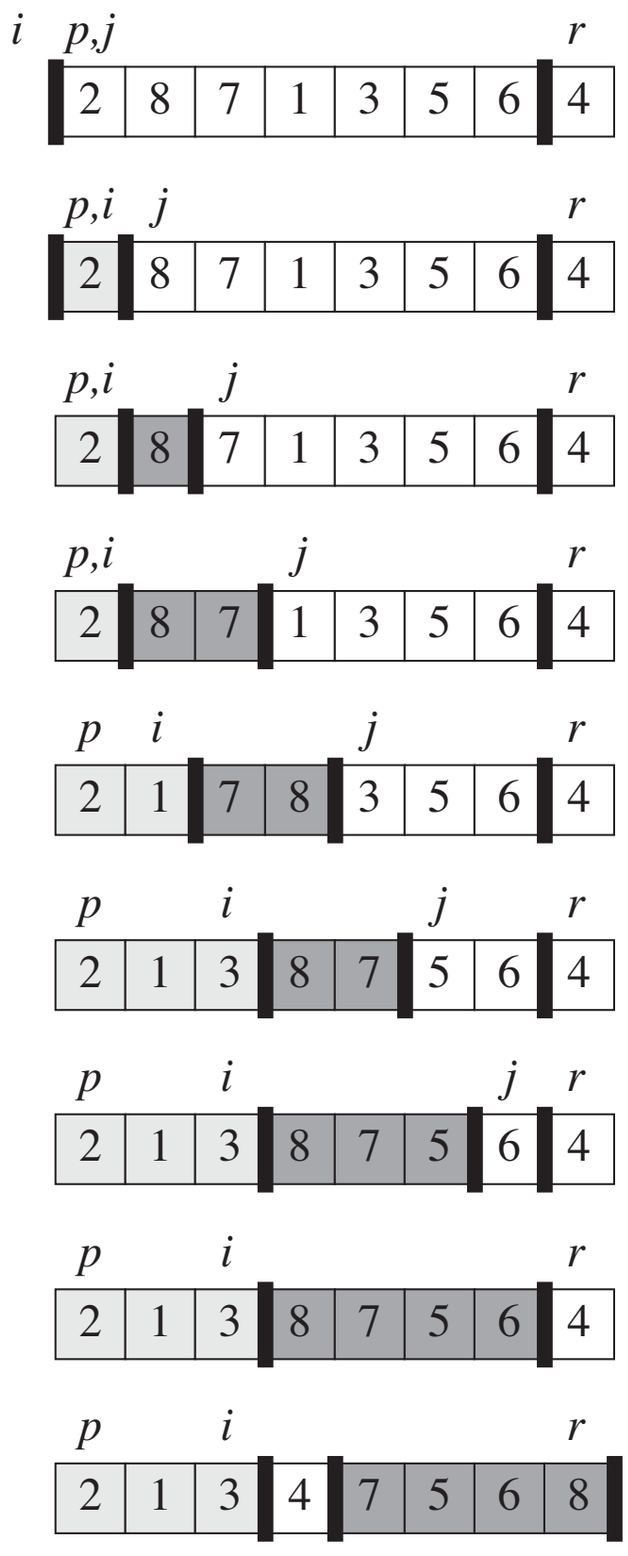

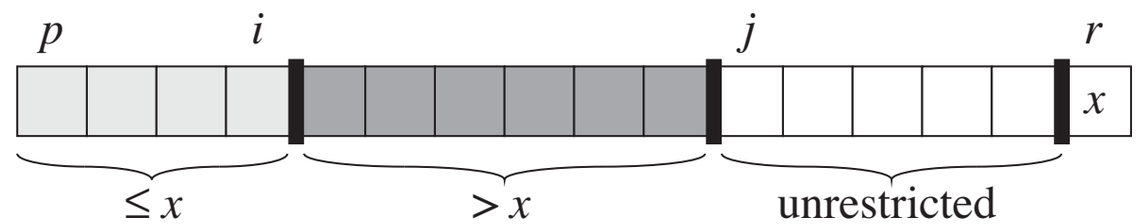

Quicksort

```
procedure quicksort(A,p,r)
    if p<r then
        q ← partition(A,p,r)
        quicksort(A,p,q-1)
        quicksort(A,q+1,r)
    end if
end procedure

function partition(A,p,r)
    X ← A[r]
    i ← p-1
    for j = p to r-1 do
        if A[j] ≤ X then
            i ← i+1
            A[i] ↔ A[j]
        end if
    end for
    A[i+1] ↔ A[r]
    return(i+1)
end function
```