Quick Sort

```
Partition{A, p, r}{

        x = A[p];
        i = p;

        for(j = p+1 to r){

                if( A[j]<=x ){
                        i++;
                        exchange(A[i], A[j]);
                }
        }
        exchange(A[p], A[i]);
        return i;
}

QuickSort(A,p,r){
        if(p<r){
                q = Partition(A, p, r);
                QuickSort(A, p, q-1);
                QuickSort(A, q+1, r);
        }
}
// initial call is QuickSort(A, 1, n-1)
```