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)