**Bubble Sort (A,N):**

cont = true

for i := 1 to N-1 do {

if cont then {

cont := false

for j := 0 to N-i do {

NUM\_OF\_COMPARISONS++

if A[j] > A[j+1] {

temp := A[j]

A[j] := A[j+1]

A[j+1] := temp

cont := true

NUM\_OF\_EXCHANGES++

}

}

}

}

**Selection Sort (A,N):**

for i:= 1 to N-1 do {

min := i

for j:= i+1 to N do

NUM\_OF\_COMPARISONS++

if A[min] > A[j] then

min := j

temp := A[min]

A[min] := A[i]

A[i] := temp

NUM\_OF\_EXCHANGES++

}

**Insertion Sort (A,N):**

for i:= 2 to N do {

current := A[i]

j := i

if not (j>1 and A[j-1] > A[current]) then NUM\_OF\_COMPARISONS++

while j > 1 and A[j-1] > current {

A[j] := A[j-1]

j := j-1

NUM\_OF\_EXCHANGES++

NUM\_OF\_COMPARISONS++

}

A[j] = current

}