

Insertion/ Bubble/ Insertion/ Quicksort

```
Selection sort
function selectionSort(A, len)
    for i = 0 to len-1
        min = i
        for j = i+1 to len-1
            if A[j] < A[min]
                min = j
            swap(A[i], A[min])
    end for
end function

Bubble sort
function bubbleSort(A, len)
    for i = 0 to len-1
        for j = len-1-i to len-1
            if A[j] > A[j+1]
                swap(A[j], A[j+1])
            end if
        end for
    end for
end function

Insertion sort
function insertionSort(A, len)
    for i = 1 to len-1
        temp = A[i]
        j = i-1
        while j > 0 and A[j] > temp
            swap(A[j], A[j+1])
            j = j-1
        end while
        A[j+1] = temp
    end for
end function

Merge sort
function mergeSort(A)
    if length(A) <= 1
        return A
    end if
    mid = length(A) / 2
    left = mergeSort(A[0..mid-1])
    right = mergeSort(A[mid..len-1])
    return merge(left, right)
end function

Report
print "Selection sort:"
print selectionSort([4, 3, 2, 1])

print "Bubble sort:"
print bubbleSort([4, 3, 2, 1])

print "Insertion sort:"
print insertionSort([4, 3, 2, 1])

print "Merge sort:"
print mergeSort([4, 3, 2, 1])
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            swap(A[i], A[min])
    end for
end function

Bubble sort
function bubbleSort(A, len)
    for i = 0 to len-1
        for j = len-1-i to len-1
            if A[j] > A[j+1]
                swap(A[j], A[j+1])
            end if
        end for
    end for
end function

Insertion sort
function insertionSort(A, len)
    for i = 1 to len-1
        temp = A[i]
        j = i-1
        while j > 0 and A[j] > temp
            swap(A[j], A[j+1])
            j = j-1
        end while
        A[j+1] = temp
    end for
end function

Merge sort
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Page 1 of 1.

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