

Bubble Sort

```
for i = n downto 2 do
  for j = 1 to i-1 do
    if A[j] > A[j+1]
      then A[j] ↔ A[j+1]
    end if
  end for
end for
```

```
for i = n downto 2 do
  for j = 1 to i-1 do
    if A[j] > A[j+1]
      then A[j] ↔ A[j+1]
    end if
  end for
end for
```

Bubble Sort (Modified)

```
i ← n-1
while i > 0 do
  t ← 1
  for j = 1 to i do
    if A[j] > A[j+1] then
      A[j] ↔ A[j+1]
      t ← j
    end if
  end for
  i ← t-1
end while
```

Cocktail-Shaker Sort

No code.