**Java**

package com.senai;  
  
import java.util.Arrays;  
  
public class Bubble {  
  
 public static int[] ack(int[] numbers) {  
  
 int temp;  
  
 for(int i = 0; i<numbers.length; i++){  
  
 for(int j = 0; j<numbers.length-1; j++){  
  
 if(numbers[j] > numbers[j + 1]){  
  
 temp = numbers[j];  
  
 numbers[j] = numbers[j+1];  
  
 numbers[j+1] = temp;  
  
 }  
  
 }  
  
 }  
  
 return numbers;  
  
 }  
  
 public static void main(String[] args) {  
  
 long inicio = System.*nanoTime*();  
  
 int[] numbers = {8, 9, 3, 5, 1};  
  
 System.*out*.println(Arrays.*toString*(numbers));  
  
 long fim = System.*nanoTime*();  
  
 System.*out*.println(fim - inicio);  
  
 int mb = 1024\*1024;  
  
 Runtime runtime = Runtime.*getRuntime*();  
  
 System.*out*.println((runtime.totalMemory() - runtime.freeMemory()) / mb);  
  
 }  
  
}

**JavaScript**

<script>  
  
 *function* Bubble(numbers) {  
 *for* (*var* i=0; i < numbers.length; i++) {  
 *for* (*var* j=0; j < numbers.length-i; j++) {  
 *if* (numbers[i] > numbers[i+1]) {  
 *var* temp = numbers[i];  
 numbers[i] = numbers[i+1];  
 numbers[i+1] = temp;  
 }  
 }  
 }  
 }  
  
 *var* inicio = window.performance.now();  
  
 *var* numbers = [33, 103, 3, 726, 200, 984, 198, 764, 9];  
  
 Bubble(numbers);  
  
 *var* fim = window.performance.now();  
  
 *var* mb = 1024\*1024;  
  
 document.write(window.performance.memory['usedJSHeapSize'] / mb);  
  
 document.write('</br>');  
  
 print(numbers);  
  
 document.write('</br>');  
  
 document.write(fim - inicio);  
   
</script>

**Python**

import time  
  
import resource  
  
inicio = time.time\_ns()  
  
def bubble(numbers):  
  
 for i in range(len(numbers) - 1, 0, -1):  
  
 for j in range(i):  
  
 if numbers[j] > numbers[j + 1]:  
  
 temp = numbers[j]  
  
 numbers[j] = numbers[j + 1]  
  
 numbers[j + 1] = temp  
  
numbers = [54, 26, 93, 17, 77, 31, 44, 55, 20]  
  
bubble(numbers)  
  
print(numbers)  
  
fim = time.time\_ns()  
  
print(fim - inicio)  
  
mb = 1024\*1024  
  
print(resource.getrusage(resource.RUSAGE\_SELF).ru\_maxrss / mb)

**Go**

**package** main  
  
**import** (  
  
 "fmt"  
  
 "time"  
  
)  
  
**func** Bubble(numbers[] int)[]int {  
  
 **for** i:=1; i< len(numbers); i++ {  
  
 **for** j:=0; j < len(numbers)-i; j++ {  
  
 **if** (numbers[j] > numbers[j+1]) {  
  
 **var** temp = numbers[j]  
  
 numbers[j] = numbers[j+1]  
  
 numbers[j+1] = temp  
  
 }  
  
 }  
  
 }  
  
 **return** numbers  
  
}  
  
**func** main() {  
  
 **var** inicio = time.Now().UnixNano()  
  
 **var** numbers = []int{21, 123, 32, 4, 5, 677, 8, 33}  
  
 fmt.Println(Bubble(numbers))  
  
 **var** fim = time.Now().UnixNano()  
  
 fmt.Println(fim - inicio)  
  
}

**Scala**

#

**Node.js**

Array.prototype.swap = function(a, b){

var tmp = this[a];

this[a] = this[b];

this[b] = tmp;

};

var bubble\_sort = function(array){

var length = array.length;

var swapped = false;

for (var i = 0; i < length; i++){

swapped = false;

for ( var j = 0; j < length - i - 1; j++){

if (array[j] > array[j + 1] ){

array.swap(j, j + 1);

swapped = true;

}

}

if (!swapped){

break;

}

}

return array;

};

var array = [6, 5, 4, 3, 2, 1];

var array\_sorted = bubble\_sort(array);

console.log(array\_sorted);