Algorithm 1: Odd-Even Transposition Sort Algorithm

Input: an unsorted array of numbers arr, number of elements n
Output: sorted array arr
Data: $sortedFlag$, $index$, tmp

```
/* Initialize supporting variables                                  */
sortedFlag ⟵ False                          // initial arr is unsorted
index ⟵ 0                                          // set index to 0

/* Continue till array is not sorted                                */
while sortedFlag == False do
    sortedFlag ⟵ True

    /* Odd phase:  sort all odd indices                             */
    for index = 1 to n − 2 by 2 do
        /* Swap elements if left element is > right element         */
        if arr[index] > arr[index + 1] then
            tmp ⟵ arr[index]
            arr[index] ⟵ arr[index + 1]
            arr[index + 1] ⟵ tmp
            sortedFlag ⟵ False
        end
    end

    /* Even Phase:  sort all even indices                           */
    for index = 0 to n − 2 by 2 do
        /* Swap elements if left element is > right element         */
        if arr[index] > arr[index + 1] then
            tmp ⟵ arr[index]
            arr[index] ⟵ arr[index + 1]
            arr[index + 1] ⟵ tmp
            sortedFlag ⟵ False
        end
    end
end
```