Stream : **JAVA** Tech Module : **1** Project : **2**

Write a java application that receives 5 numbers through command line arguments and sort them using Bubble Sort.

How Bubble Sort works:

Bubble Sort is a sorting algorithm which compares two adjacent elements and swap them if they are not in the right order. To sort the entire array, the array is traversed n-1 time (array having n elements). These are called passes.

In the first pass, the largest element moves to the last position (sorting in ascending order). So if the original (unsorted) array is:

53 29 16 41 68

then during first pass, adjacent elements will be compared, and swapped if not in order (if larger element is on left side) as shown below:

53 29 16 41 68 ← Swap

29 **53 16** 41 68 ← Swap

29 16 **53 41** 68 ← Swap

29 16 41 **53 68** ←Don't Swap

After first pass

29 16 41 53 68

After first pass the largest element is at the last position.

Now, in the 2nd pass, we will consider the first (n-1) elements only (because last position already has largest element). After 2nd pass the array will be

29 16 41 53 68

i.e, 53 will be moved to the (n-1)th position. In the 3rd pass 3rd largest element will be moved to the (n-2)th position and so on.

After (n-1) passes, (n-1) elements will be moved to their proper positions, the last element has to be the smallest. So the array will be sorted after n-1 passes.