PROBLEM INTRODUCTION:

Bubble Sort is one of the most popular sorting algorithms. It sorts the elements of a given array by swapping the adjacent elements iteratively.

ALGORITHM STEPS:

REQUIRED INPUTS: The input for the bubble sort is an unsorted array of numbers.

OUTPUT: The sorted array of given elements.

CORE STRATEGY:

In the given input array, starting from the first element, the bubble sort algorithm compares each element with its adjacent elements. Upon completion of each iteration, one element is placed in its correct position

STEPS:

1. Take the unsorted array as input
2. Initialize a variable i as 0.
3. Intialise a variable j as 0.
4. Compare the array element at index j with the element at index j+1. If it is lesser than the element at index j, swap the elements.
5. Increment j with 1 and repeat step 4 until j reaches the limit of array size-i.
6. When j reaches the limit, increment i with 1 and repeat steps 3,4, and 5 until i reach the limit.
7. The resultant array is sorted.

TIME AND SPACE COMPLEXITY: For sorting n elements the bubble sort takes a time of O(n^2).