1-) 4_MergeSort (A, l, r)

a-) if l < r:

then m ← (l+r)/2

4_MergeSort (A, l, m/2)

4_MergeSort (A, (m/2)+1, m)

4_MergeSort (A, m+1, (m+r)/2)

4_MergeSort (A, ((m+r)/2)+1, r)

Merge (A, l, m, r)

b-) T(n) =

T(1), T(2) = O(1)

$T(n) = 4T(n/4) + O(n)$ (?)

$T(1), T(2) \leq C_2$ (base case)

$T(n) \leq 4T(n/4) + C_1 n$

$T(n) = O(n \log(n))$

2-) a) Merge Sort for sorting the array and then returning them as 1st En-40:1.

Or is also possible to use the Bubble sort function. The function compare all the elements and find the biggest and put it at last in the list.

3-)