CITYSORT(*U, C)*

▷Input: Preference of the user U which stores an unidimensional array, and C[i][j] array stores the degree of factors for all the cities in a country.

▷Output: Sorted list S of cities

1 *difference[]* = 0

2 **for** *i* 🡐 1 **to** |C| **do**

3 *sum* 🡐 0

4  **for** *j* 🡐 1 **to** |C[1]| **do**

*5*  *sum* 🡐 *sum* + (*U[j] – C[i][j]*)2

6 *sum* 🡐 *sum1/2*

7 /\* L2 norm of the difference between user preference

8 and the city \*/

9 *difference*[i] 🡐 *sum*

10 **procedure** MERGESORT(*difference[0..n-1]*)

11 **if** n > 1 then **begin**

12 **copy** *difference*[0..⎣n/2⎦-1] **to** B[0..⎣n/2⎦-1]

13 **copy** *difference*[⎣n/2⎦..n-1] **to** C[0..⎡n/2⎤-1]

14 MERGESORT(B[0..⎣n/2⎦-1])

15 MERGESORT(C[0..⎡n/2⎤-1])

16 MERGE(B, C, difference)

17 **end procedure**

18 **procedure** MERGE(*B[0..p-1], C[0..q-1], A[0..p+q-1]*)

19 Set *i* 🡐 0, *j* 🡐 0, *k* 🡐 0

20 **while** i < p and j < q **do**

21 **begin**

22 **if** *B*[i] <= *C*[j] then set *A[*k]=*B*[i] and increase i

23 **else** set A[k] 🡐 C[j] and increase j

24 k 🡐 k+1

25 **end**

26 **if** I 🡐 p then copy *C*[j..q-1] to *A*[k..p+q-1]

27 **else** **copy** *B*[i..p-1] to *A*[k..p+q-1]