Program-05

Write a program to declare a single-dimensional array a[] and a square matrix b[][] of size N, where N > 2 and N < 10. Allow the user to input positive integers into the single dimensional array.  
  
Perform the following tasks on the matrix:  
  
 Sort the elements of the single-dimensional array in ascending order using any standard sorting technique and display the sorted elements.  
 Fill the square matrix b[][] in the following format:  
 If the array a[] = {5, 2, 8, 1} then, after sorting a[] = {1, 2, 5, 8}  
 Then, the matrix b[][] would fill as below:  
  
 1 2 5 8  
 1 2 5 1  
 1 2 1 2  
 1 1 2 1  
  
 Display the filled matrix in the above format.  
  
Test your program for the following data and some random data:  
  
Example 1  
  
INPUT:  
N = 3  
ENTER ELEMENTS OF SINGLE DIMENSIONAL ARRAY: 3 1 7  
  
OUTPUT:  
SORTED ARRAY: 1 3 7  
FILLED MATRIX  
  
1 3 7  
1 3 1  
1 1 3  
  
Example 2  
  
INPUT:  
N = 13  
  
OUTPUT:  
MATRIX SIZE OUT OF RANGE  
  
Example 3  
  
INPUT:  
N = 5  
ENTER ELEMENTS OF SINGLE DIMENSIONAL ARRAY: 10 2 5 23 6  
  
OUTPUT:  
SORTED ARRAY: 2 5 6 10 23  
FILLED MATRIX  
  
2 5 6 10 23  
2 5 6 10 2  
2 5 6 2 5  
2 5 2 5 6  
2 2 5 6 10