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Pledge: I pledge my honor that I have abided by the Stevens Honor System.

1) Consider an array containing the following 40 integers:

   5 2 4 4 0 1 6 7 3 1 1 0 5 1 5 4 4 5 7 0 6 1 0 7 5 2 7 6 5 3 7 0 5 5 7 1 1 2 6 5

   How many counters does CountingSort need to sort this array: 7

   Give the value of each counter after the array of counters has been fully initialized:

   Counter 0: 5

   Counter 1: 7

   Counter 2: 3

   Counter 3: 2

   Counter 4: 4

   Counter 5: 9

   Counter 6: 4

   Counter 7: 6

2) Consider an array containing the following 32 bit integers (written as hexadecimal values to save space):

   4EC1EEA9
   520B6E78
   1E90D74E
   52DB6E42
   5F05EF13
   74284442
   794E8117
   55526E42

   Imagine you are using a version of RadixSort that sorts on one byte at a time (so two hexadecimal digits) using a stable version of CountingSort. Write the content of the array after each of the four runs of CountingSort:

5F05EF13, 794E8117, 55526E42, 52DB6E42, 74284442, 1E90D74E, 520B6E78, 4EC1EEA9
74284442, 52DB6E42, 55526E42, 520B6E78, 794E8117, 1E90D74E, 4EC1EEA9, 5F05EF13
5F05EF13, 520B6E78, 74284442, 794E8117, 55526E42, 1E90D74E, 4EC1EEA9, 52DB6E42
1E90D74E, 4EC1EEA9, 520B6E78, 52DB6E42, 55526E42, 5F05EF13, 74284442, 794E8117