

Name: Breona Pizzuta

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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: Allocate an array of size max+1 of counters, so 7+1= 8 counters

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

0	1	2	3	4	5	6	7
5	7	3	2	4	9	4	6

[5,7,3,2,4,9,4,6]

2) Consider an array containing the following 32-bit unsigned integers, written as hexadecimal values to save space. Imagine you are using a version of RadixSort that sorts in increasing order (top-down) on one byte at a time (so two hexadecimal digits) using a stable version of CountingSort. Write the full content of the array after each of the four runs of CountingSort:

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