

Northern Michigan University (Marquette Co, MI)

CS422-01-25W: Algorithms (Andrew A. Poe)
Quiz 9

Name: _____
Friday 11 April 2025 9:00 A.M. EDT

Time: 15 minutes

Show how Radix Sort would sort the following nine strings. Do not write code, but be very explicit and detailed in what is going on.

BA AB CC AC BB BC CB AA CA

- 0. BA**
- 1. AB**
- 2. CC**
- 3. AC**
- 4. BB**
- 5. BC**
- 6. CB**
- 7. AA**
- 8. CA**

Count the number of A's B's C's on the right. 3 3 3. Make this a running total: 3 6 9

Add the elements in reverse order to a new array

- 0. BA [0 3 6]**
- 1. AA [1 6 9]**
- 2. CA [2 6 9]**
- 3. AB [1 3 6]**
- 4. BB [1 4 8]**
- 5. CB [1 5 9].**
- 6. CC [1 4 6]**
- 7. AC [1 4 7]**
- 8. BC [1 5 8]**

Now do the same thing on the left: 3 3 3. Running total: 3 6 9

- 0. AA [0 4 6]**
- 1. AB [1 4 7]**
- 2. AC [2 5 9]**
- 3. BA [0 3 6]**
- 4. BB [2 4 7]**
- 5. BC [3 5 9]**
- 6. CA [1 4 6]**
- 7. CB [2 5 7]**
- 8. CC [2 5 8]**