

1. Counting Sort, Radix Sort, Bucket Sort (60 points, 20 points each)

Illustrate the execution of each of the following sorting methods on the given input:

(1) COUNTING-SORT (show as in Figure 8.2): $A = \langle 6, 0, 2, 6, 0, 8 \rangle$

(2) RADIX-SORT (show as in Figure 8.3): English words: PAT, CAT, CART (*right-justify this word* so that T is compared first), FAT, FIX

(3) BUCKET-SORT (show as in Figure 8.4): $A = \langle 0.67, 0.82, 0.12, 0.46, 0.88, 0.61 \rangle$

2. Counting Sort, Radix Sort (20 points)

(1) (15 points) Exercise 8.3-4, textbook, p200

(2) (5 points) What is the running time if we use Counting Sort? Justify your answer.

3. Sorting (20 points)

Exercise 8.4-2, textbook p204