

Homework 4: assigned 11/12, due 11/18 at 9 am Pacific time

1. Exercise 14 on page 195
2. Exercise 18 on page 197
3. Exercise 5 on Page 248
4. Exercise 6 on page 248
5. Suppose you are given an array of sorted integers that has been circularly shifted  $k$  positions to the right. For example taking ( 1 3 4 5 7) and circularly shifting it 2 position to the right you get ( 5 7 1 3 4 ).  
Design an efficient algorithm for finding  $K$  (linear time is trivial)
6. Consider  $d$  sorted array of integers each containing  $n_1, n_2, \dots, n_d$  numbers. The numbers  $n_i$ 's are arbitrary. The total number of all elements is  $n$  (sum of all  $n_i$ 's). Design an  **$O(n \log d)$**  algorithm that merges all arrays into one sorted list. You may wish to use a data structure that we have discussed in class.