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Assignment 6

Written portion
Assume the amount of student names is some large constant and the amount of assignments is n
1. Assume every hash look up takes O (1) time, what would the runtime of your algorithm you wrote be? (In terms of Big O using n)

O(n), for loop for n number of assignments to check for duplications

2. What if you sorted the list of students and the assignments, what would the runtime of this algorithm be? (In terms of Big O using n)

O(n), O(1) for each lookup, * O(n) for the for loop

3. What if you maintained an unsorted list of students names and assignments, what would the runtime of this algorithm be? (In terms of Big O using n)

O(n), doesn't matter if its unsorted or sorted if Look up is O(1),

Extra credit:
Assume the amount of names is n and the amount of assignments is m
1. Assume every hash look up takes O (1) time, what would the runtime of your algorithm you wrote be? (In terms of BigO using n and/or m)

Check for duplicates of assignment = O(m)
Look up the name = O(1) for every name = O(n)
O(m) + O(n)

2. What if you sorted the list of students and the assignments, what would the runtime of this algorithm be? (In terms of Big O using n and/or m)

O(m) +O(n)

3. What if you maintained an unsorted list of students names and assignments, what would the runtime of this algorithm be? (In terms of Big O using n and/or m)

O(m) +O(n)