

Shuffled Exams

For this problem, we will be working with `Exam` and `Student` objects, both of which have only one attribute: `sid`, which is a number like any student ID.

PrairieLearn thought it was ready for the final. It had meticulously created two arrays, one of `Exams` and the other of `Students`, and ordered both on `sid` such that the i th `Exam` in the `Exams` array has the same `sid` as the i th `Student` in the `Students` array. Note the arrays are not necessarily sorted by `sid`. However, PrairieLearn crashed, and the `Students` array was shuffled, but the `Exams` array somehow remained untouched.

Time is precious, so you must design a $O(N)$ time algorithm to reorder the `Students` array appropriately **without** changing the `Exams` array!

Hint: Begin by reordering **both** the `Students` and `Exams` arrays such that i th `Exam` in the `Exams` array has the same `sid` as the i th `Student` in the `Students` array.