**EXERCISE 2**

Here’s a bad alternative to a serial dictatorship, which unfortunately was used to assign kids to elementary schools in a number of major cities for many years.

| **A Bad Mechanism for One-Sided Markets**  1. Each student submits a ranked list (with no limit on the number of entries).  2. The students are ordered in some way. (E.g., by lottery numbers.)  3. The students are considered in this order. When student i is considered, if her top ranked school is still available, then she is (permanently) assigned to that school. (Otherwise, she is not assigned in this phase.)  4. The still-unassigned students are considered in the same order as before. When student i is considered, if her second-ranked school is still available, then she is assigned to that school. (Otherwise, she is not assigned in this phase.)  5. And so on with the still-unassigned students’ third choices, fourth choices, etc. |
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Discuss in detail what type of strategic behavior (i.e., gaming of the system) you would expect to see from the participants in this mechanism. Do you think the flaws of this mechanism would harm all students equally, or would some demographics be harmed more than others?

The students may take up any/all of the below strategies in order to enhance their chances at getting a better college:

1. In order to avoid a bad outcome, the students may put up reasonable/mild preferences in the beginning of their preference list.
2. Students may also put up their best preference( assumption that it is a popular choice) at the top few positions followed by some reasonable ones in place of their actual preferences. This is done in order to benefit from luck if it happens and dodge an unpleasant outcome.
3. Instead of filling out their real choices, students may fill up a huge number of preferences which include both their preferences and some ‘compromisable colleges’.
4. Students will try to give all the colleges a place in the list so that in any situation they do not remain unassigned at the end of the process.

As visible this is a highly disadvantageous mechanism. Some of its shortcomings are as follows:

1. This is not a strategy proof mechanism.
2. Outcomes are not pareto optimal.
3. Although it seems to assign the students into a serial dictatorship, it is not exactly so. There are high chances of losing a turn and thus going lower in serial dominance.
4. There are high chances of students left unassigned at the end of the procedure.
5. It mostly leaves the students with a high sense of regret as a single mistake takes him/her a complete round below others.
6. At first it seems that all students may have a fair chance of being harmed by the process. However the students filling out their real preferences are harmed beyond the acceptable limits.
7. Due to the uncertainty of lottery numbers many students may also fail to avail their luck if they plan in a strategic way.
8. Most students will try not to fill out the popular choices and it will impact the college market negatively.