Assignment 1

Algorithms Complexity (CIS 522-01)

Javier Arechalde

January 31, 2018

Problem 1. Matching Residents to Hospitals

We have m hospitals, each one of them has certain number of available positions to hire residents.

In a given year n medical students were graduating, each one of them interested in joining one of the hospitals.

Each one of the hospitals had a ranking of the students in order of preference, and each student had a ranking of hospitals in order of preference.

In this problem we will assume that $n > m$.

We are looking to assign each student to at most one hospital, in a way that all available positions in hospitals are filled. As $n > m$ some students may have none hospitals assigned.

For this problem there will be two types of unstability:

- First type
- Second type

Hola hola2 hola3 end

Problem 2. Implementation of Propose-and-Reject Algorithms