Documentation for *Mock Interviews* solver

**Overview**

The following documentation outlines the Mixed Integer Programming (MIP) formulations for the mock interviews scheduling allocation.

**Data parameters**

|  |  |
| --- | --- |
| **Notation** | **Definition** |
|  | The set of ‘rounds’ in the interview schedule |
|  | The set of companies engaging in the interview rounds |
|  | The set of company representative for a company |
|  |  |
|  | The set of students participating in the event |
|  | The preference multiplier a student has applies to a company.  The preference multiplier is inversely related to the preference of the company, such that if student that has first (1) preference for a company then. |

**Decision variable sets**

|  |  |
| --- | --- |
| **Notation** | **Definition** |
|  | A company representative from company is interviewing a student at an interview round. |

**Objective value**

Maximise the preference selection of student interviewing at a company

**Constraints**

1. A student can participate in up to one interview session per round, i.e. a student cannot be booked for more than one interview per round.
2. Similar to (1), a company representative can participate in up to one interview session per round. A company representative cannot be scheduled for two (or more) interviews in the same interview round
3. This is a rule enforced by the event organiser Lois Min. A student is must attend at least two interview sessions in rounds one and three (denoted {}) or rounds two and four (denoted {}). If there are timeslots available, a student can be assigned into a third and fourth interview. The following three constraints facilitate this logical condition:
4. A student should interview (more than once) at the same company. This rule is imposed with the following constraint: