**Scenario**

Our client is Vice Principal Sandy Sanchez. Vice principal Sanchez needs a program to place 1000 students in to classes. We met with Vice Principal Sanchez to define the scope of the program, and determine the success criteria. See appendix for full transcript. The following summary is based on our consultation.

Each student in the school has selected 6 courses from a list of 60 possible courses. Each student has also selected 3 alternates. These courses are already stored in a formatted text file. Some of these courses are required courses. It can be assumed that in the text file, students have appropriately signed up for all required courses.

By brute force, the program will look at millions of possible schedules. The program will evaluate each of these schedules for the following criteria:

- Students are in all required courses
- A student is considered "satisfied" if they get all of their six required courses. The program will maintain the 20 highest schedules which have the highest percentage of student satisfaction.

Given the input of student requests for classes, the software would give possible schedules that would maximize the students getting their preferred classes.

**Success Criteria**

1. Accept student requests in a formatted file

2. Program generates a master schedule that maximizes student satisfaction (numerical score). Student satisfaction is max. students get top 6 chosen classes

3. Master schedule is generated into a formatted readable text file

4. No class many have more than 30 students. This is clearly visible with a course count written by the course name in the generated schedule

5. Sections of a course are roughly distributed throughout the day

6. Courses from each department are roughly distributed through the day. This is clearly visible from the generated schedule.