

First, the file /340/dp.py is the python file for playing with the fake data.

Here are steps to follow:

```
# /340/basic
perl make_random_input.pl <number of rooms> <number of
classes> <number of class times> <number of students> <constrains
file> <student prefs file> # to generate fake data
```

```
# run the python file to generate the schedule output
time python3 ~/340/ds.py <constrains file> <student prefs
file> <schedule output file>
```

```
# test if the output file is valid
perl is_valid.pl <constrains file> <student prefs file>
<schedule output file>
```

```
chmod +x run_extremly_large.sh # <optional> you can use to
generate fake data all at once
./run_extremly_large.sh
```

Below are extensions that we proposed:

```
alg_timeslot_greedy.py - Timeslots: Greedy
alg_timeslot_dp.py - Timeslots: DP
alg_timeslot_IS.py - Timeslots: IS
alg_timeslot_conflict_base.py - Conflict Based
alg_timeslot_conflict_base_greedy.py - Conflict Based Greedy
alg_timeslot_conflict_base_dp.py - Conflict Based DP
alg_popularity_conflict.py - A Combination of Conflict and
Popularity Base
alg_classrooms.py - Departmental Classroom Allocation
alg_timeslot_annealing.py - Simulated Annealing
```

We have generated the constrains files and student preferences files in the following directory: /340/brynmawr/constrains and /340/brynmawr/studentpref

To run any of the extensions we proposed:

```
# /340/brynmawr
time python3 alg_<FILENAME.py> /constrains/<constrains file>
studentpref/<student prefs file> <output_schedule.txt>
```

For each file, the score and fit percentage are printed to the terminal. The generated schedule is in output_schedule.txt.