

Topics to discuss

Our original approach was a more simple method, which showed promise in small scale testing. As we added more cohorts, the performance decreased exponentially, and we had to abandon it as a viable approach

We switched to Optaplanner, a Framework by Red Hat. We are working on getting it to work with our use case and are making rapid progress

Optaplanner is more based on probability rather than brute force and seems promising as a way of solving the problem at hand. It is customized for schedule generating for very complex problems which cannot be done by brute force or other traditional methods

Some of the examples have far search spaces than the Cohort problem's search space. It finished in a very short time.

Another thing that will make the schedules significantly easier is to do only classes which are needed by the whole cohort. If you all are okay with it, we'd like to start with only the classes which are needed by the whole cohort. If time allows, we will integrate split requirements (ie half MATH1110, half MATH1180)

Optaplanner is developed, as we said before, by Red Hat. they are one of the largest software companies in the world. This ensures the quality of the framework and allows for algorithms that are far more efficient than what we can program.

We have already developed the majority of a website to allow you to input data about each cohort and upload files (show screenshots) is there anything else you need to be able to add as input?

Timeline: we hope to have the new algorithm up and running by early february. We have the solution planned out, and it should work based on our current research, we will give you an update next thursday via email and plan to meet a week from then

Angular Full Stack - Mozilla Firefox

about:sessionrestore x Angular Full Stack x +

localhost:4200/cohorts

Home Cohorts Schedules Account (abcdef) Admin Logout

### Current cohort requirements (2)

Cohort	Class	Seats Required	Sections Allowed	Actions
BIOS1	MATH1110	18	F	<a href="#">Edit</a> <a href="#">Delete</a>
BIOS1	BIOS1600	18	All	<a href="#">Edit</a> <a href="#">Delete</a>

### Add new cohort requirement

[+ Add](#)

Angular Full Stack - Mozilla Firefox

about:sessionrestore x Angular Full Stack x +

localhost:4200/scheduling

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### Current schedules (0)

Schedule Name	Date	Actions
There are no schedules in the database. Run a new schedule below.		

### Run New Schedule

[+ Run](#)