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This document contains the results of our testing. The results are discussed in detail in our formal PDF write up.

The group experimented with changing the preferences around to display the ability our program has to skew the results towards what the user actually wants. The first set of results is for users that desire no online classes, a tightly packed schedule, morning classes, and having no classes on Fridays. Here is the MATLAB GUI output for the best schedule:

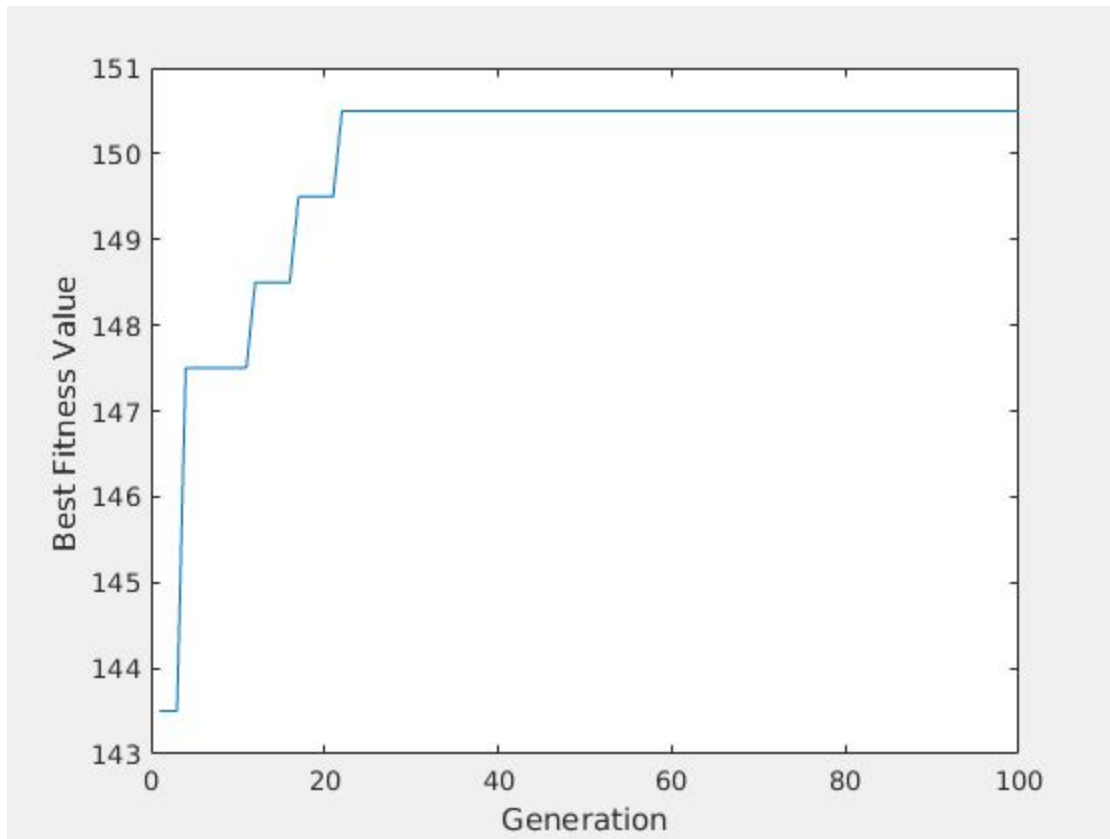
	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Online
8:00am	ECON201	CHEM102	ECON201				
8:30am	ECON201	CHEM102	ECON201				
9:00am	ECON201	CHEM102	ECON201	ENGR102			
9:30am	ECON201	CHEM102	ECON201	ENGR102			
10:00am				ENGR102			
10:30am				ENGR102			
11:00am	ENGR102	CHEM102					
11:30am	ENGR102	CHEM102					
12:00pm	CHEM102		CHEM102		CHEM102		
12:30pm	CHEM102	CS283	CHEM102	CS283	CHEM102		
1:00pm		CS283		CS283			
1:30pm		CS283		CS283			
2:00pm							
2:30pm							
3:00pm							
3:30pm							
4:00pm							
4:30pm							
5:00pm							
5:30pm							
6:00pm							
6:30pm							
7:00pm							
7:30pm							
8:00pm							
8:30pm							
9:00pm							
9:30pm							
10:00pm							

As you can see from observing the schedule output, the classes are organized towards the beginning of the day and tightly compact. In addition to this, there are no online classes and only one class on Fridays. That seems like a rather well made schedule based on the given preferences. This only took about a minute to run too!

These are the hardcoded/defined user preferences that resulted in the previous schedule.

```
preferences = struct();  
preferences.online_classes = 0;  
preferences.tightly_packed = 10;  
preferences.morning_classes = 10;  
preferences.no_classes = ['F'];
```

The plot below displays the our top schedule getting better over the generations.



The second set of results is for users that desire online classes, a tightly packed schedule, no morning classes, and having no classes on Wednesdays. Here is the MATLAB GUI output for the best schedule:

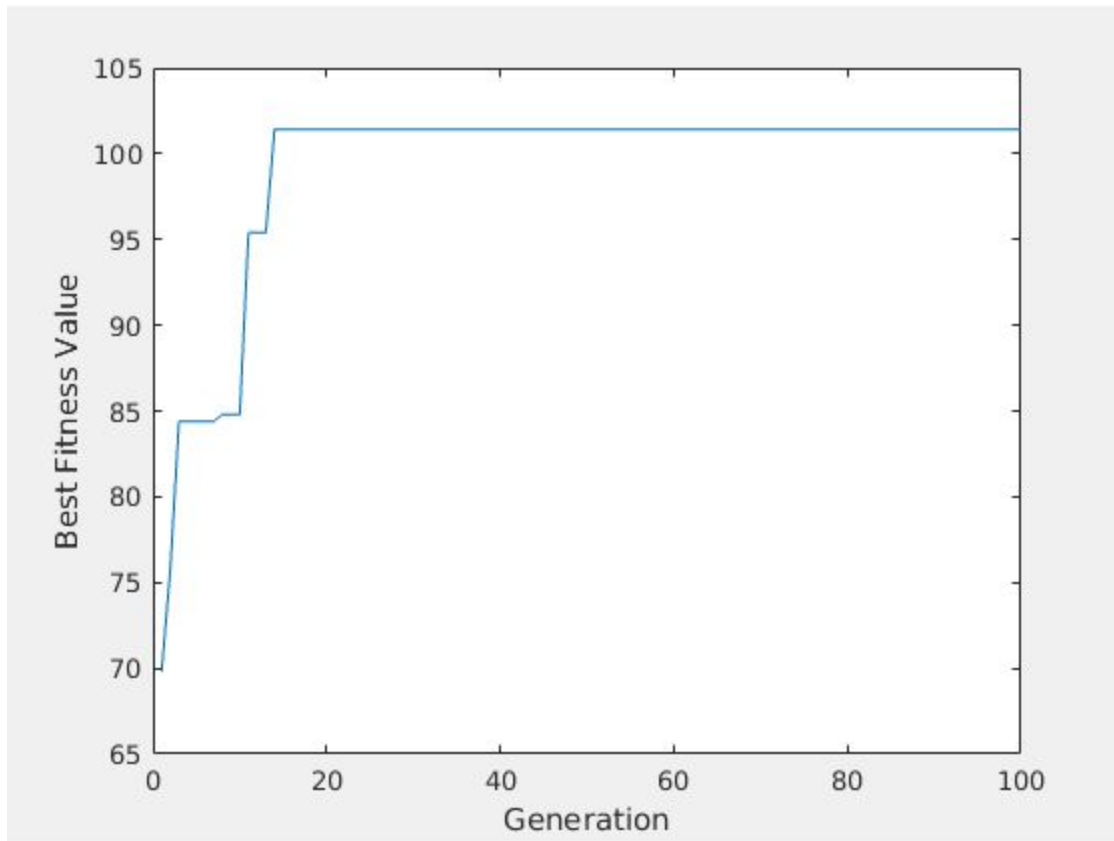
	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Online
8:00am							ECON201
8:30am							
9:00am							
9:30am							
10:00am							
10:30am							
11:00am							
11:30am							
12:00pm			CHEM102				
12:30pm			CHEM102				
1:00pm		ENGR102	CHEM102				
1:30pm		ENGR102	CHEM102				
2:00pm	ENGR102	ENGR102	CHEM102				
2:30pm	ENGR102	ENGR102	CHEM102				
3:00pm							
3:30pm							
4:00pm	CHEM102		CHEM102		CHEM102		
4:30pm	CHEM102		CHEM102		CHEM102		
5:00pm							
5:30pm							
6:00pm							
6:30pm				CS283			
7:00pm				CS283			
7:30pm				CS283			
8:00pm				CS283			
8:30pm				CS283			
9:00pm				CS283			
9:30pm							
10:00pm							

This schedule is for the same classes as the previous example, but it's clearly different. We see the schedule biasing away from the early morning hours, but still remaining relatively compact. We also now have an ECON class online instead of during the week. Another aspect that we greatly desired.

These are the hardcoded/defined user preferences that resulted in the previous schedule.

```
preferences = struct();
preferences.online_classes = 10;
preferences.tightly_packed = 10;
preferences.morning_classes = 0;
preferences.no_classes = ['W'];
```

The plot below displays the our top schedule getting better over the generations.



As you can see between the two differing preferences, the schedules are dramatically different. Of course they don't fit all of the user's defined preferences exactly, but that is to be expected with any scheduling application. Not wanting to have classes on a certain day may not be possible if a class is only offered on a certain day.

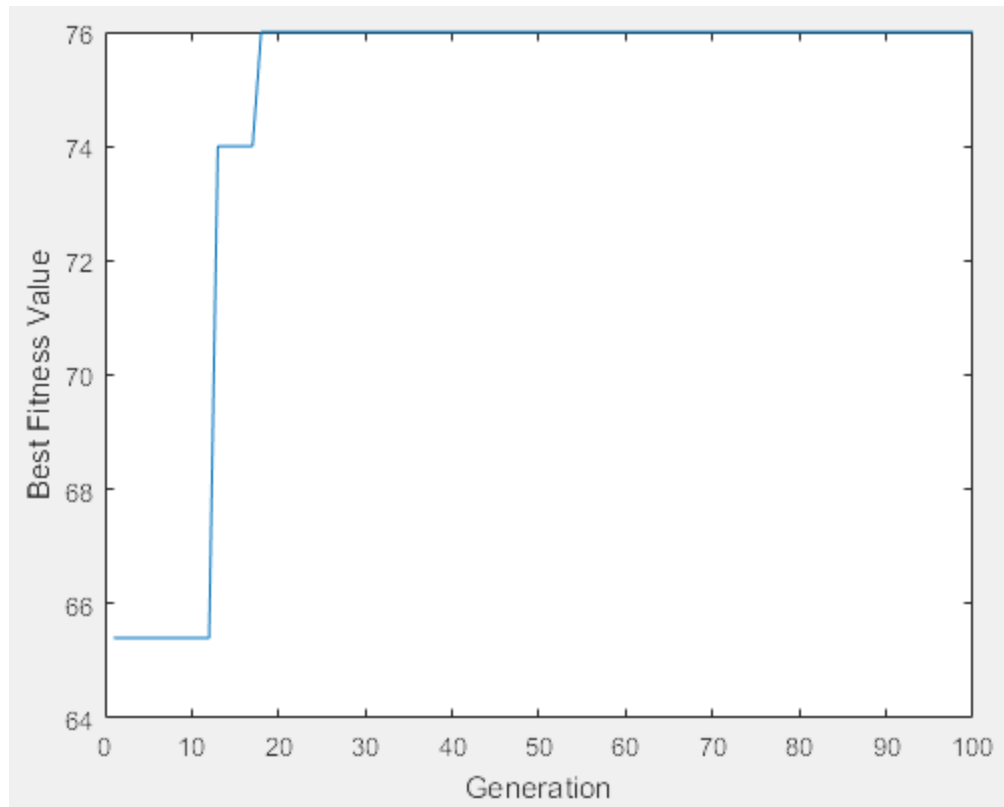
The group agrees that for an experimental program this does the task of creating generally favorable schedules that match user preferences very well and in a timely manner. 100 generations takes less than a minute to run on a modern computer!

Extra Results

Online classes, not tightly packed, morning classes, and no classes on Wednesday.

```
preferences = struct();
preferences.online_classes = 10;
preferences.tightly_packed = 0;
preferences.morning_classes = 10;
preferences.no_classes = ['W'];
```

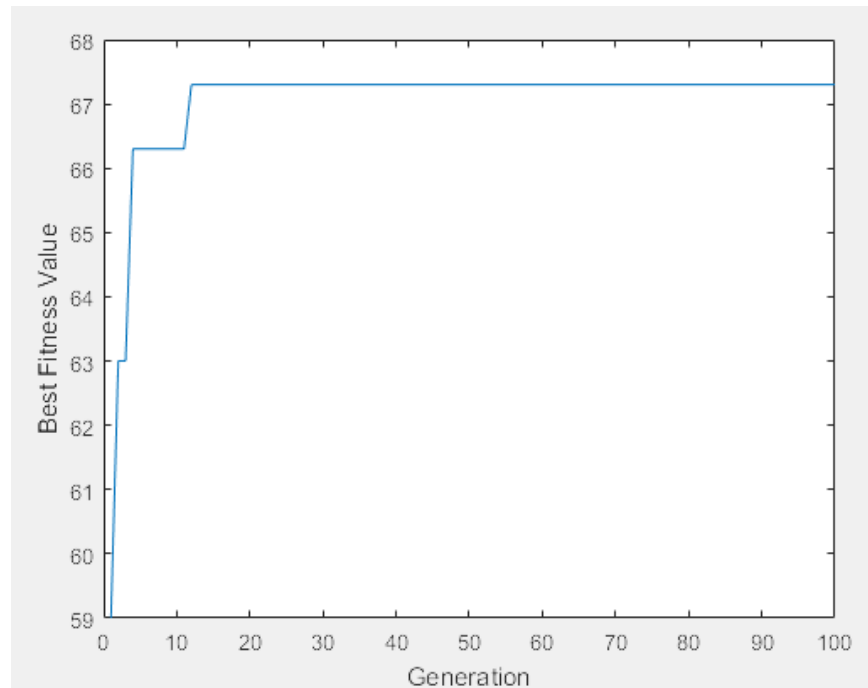
	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Online
8:00am		CHEM102					ECON201
8:30am		CHEM102					
9:00am	CHEM102	CHEM102	CHEM102	CHEM102	CHEM102		
9:30am	CHEM102	CHEM102	CHEM102	CHEM102	CHEM102		
10:00am	ENGR102						
10:30am	ENGR102						
11:00am			ENGR102				
11:30am			ENGR102				
12:00pm			ENGR102				
12:30pm			ENGR102				
1:00pm							
1:30pm							
2:00pm							
2:30pm							
3:00pm							
3:30pm							
4:00pm							
4:30pm							
5:00pm							
5:30pm							
6:00pm							
6:30pm				CS283			
7:00pm				CS283			
7:30pm				CS283			
8:00pm				CS283			
8:30pm				CS283			
9:00pm				CS283			
9:30pm							
10:00pm							



No online classes, not tightly packed, no morning classes, and no classes on Monday.

```
preferences = struct();  
preferences.online_classes = 0;  
preferences.tightly_packed = 0;  
preferences.morning_classes = 0;  
preferences.no_classes = ['M'];
```

	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Online
8:00am							ECON201
8:30am							
9:00am							
9:30am							
10:00am							
10:30am							
11:00am							
11:30am							
12:00pm							
12:30pm							
1:00pm			ENGR102				
1:30pm			ENGR102				
2:00pm	ENGR102		ENGR102				
2:30pm	ENGR102		ENGR102				
3:00pm	CHEM102						
3:30pm	CHEM102						
4:00pm	CHEM102		CHEM102	CHEM102	CHEM102		
4:30pm	CHEM102		CHEM102	CHEM102	CHEM102		
5:00pm				CHEM102			
5:30pm				CHEM102			
6:00pm							
6:30pm		CS283					
7:00pm		CS283					
7:30pm		CS283					
8:00pm		CS283					
8:30pm		CS283					
9:00pm		CS283					
9:30pm							
10:00pm							



Middle of the road preferences for everything.

```
preferences = struct();  
preferences.online_classes = 5;  
preferences.tightly_packed = 5;  
preferences.morning_classes = 5;  
preferences.no_classes = ['F'];
```


	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Online
8:00am							ECON201
8:30am							
9:00am							
9:30am							
10:00am				CHEM102			
10:30am				CHEM102			
11:00am				CHEM102	ENGR102		
11:30am				CHEM102	ENGR102		
12:00pm					ENGR102		
12:30pm					ENGR102		
1:00pm	CHEM102		CHEM102		CHEM102		
1:30pm	CHEM102		CHEM102		CHEM102		
2:00pm	ENGR102				CHEM102		
2:30pm	ENGR102				CHEM102		
3:00pm							
3:30pm							
4:00pm							
4:30pm							
5:00pm							
5:30pm							
6:00pm							
6:30pm		CS283					
7:00pm		CS283					
7:30pm		CS283					
8:00pm		CS283					
8:30pm		CS283					
9:00pm		CS283					
9:30pm							
10:00pm							

