

Results:

Note that the schedule generated is presented as a nested list, which each sub-list represents one intake. Intake 1 to 5 is presented in the list in sequential order.

DSBA program:

```
[[ 'RMCP', 'SEM|BIA', 'BSSMA|CIS'], ['BDAT', 'BIS', 'TSF|DL', 'ORO|DPM'], ['RMCP', 'ABAV', 'DAP', 'MDA|NLP'], ['BDAT', 'AML', 'ORO|DPM', 'MMDA'], ['RMCP', 'TSF|DL', 'DM', 'ABAV']]
```

Consecutive module violations: 0

Same module in intake violations: 0

No modules for student violation: 0

Module not offered violation: 0

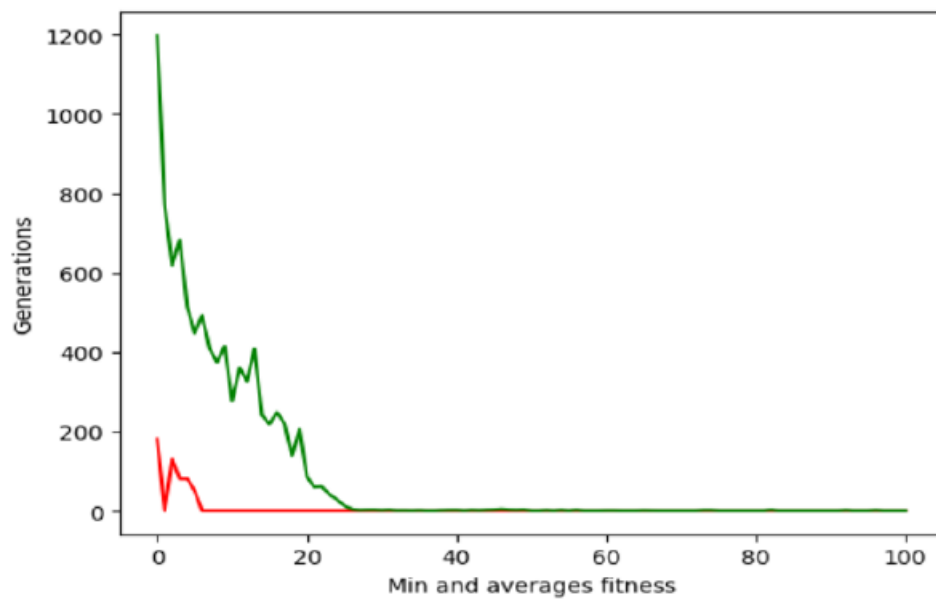
Less than five intake violation: 0

Modules from BI/DE pathway exceeding 5 violation: 0

Exceed elective module count violation: 0

Total cost: 95000

Module Offered more than twice: 1



AI program:

```
 [['RMCE', 'PR', 'IPCV'], ['AI', 'ESKE', 'FL'], ['RMCE'], ['AI', 'ESKE', 'CIO'], ['RMCE', 'AR', 'FL']]
```

Consecutive module violations: 0

Same module in intake violations: 0

No modules for student violation: 0

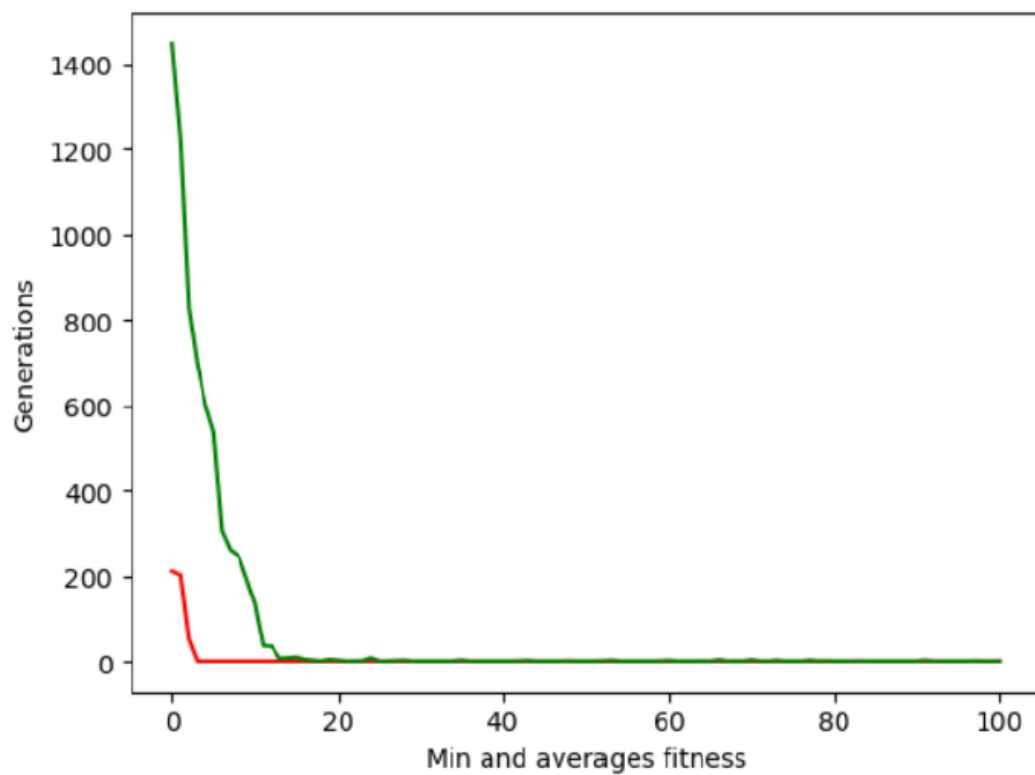
Module not offered violation: 0

Less than five intake violation: 0

Exceed elective module count violation: 0

Module Offered more than twice: 1

Total cost: 65000



SE program:

```
[[['RMCE', 'NDP'], ['BDAT', 'DM', 'RELM'], ['RMCE', 'SECT'], ['BDAT', 'IA', 'MSDP', 'OOSSE'], ['RMCE', 'SQE', 'SESE']]]
```

Consecutive module violations: 0

Same module in intake violations: 0

No modules for student violation: 0

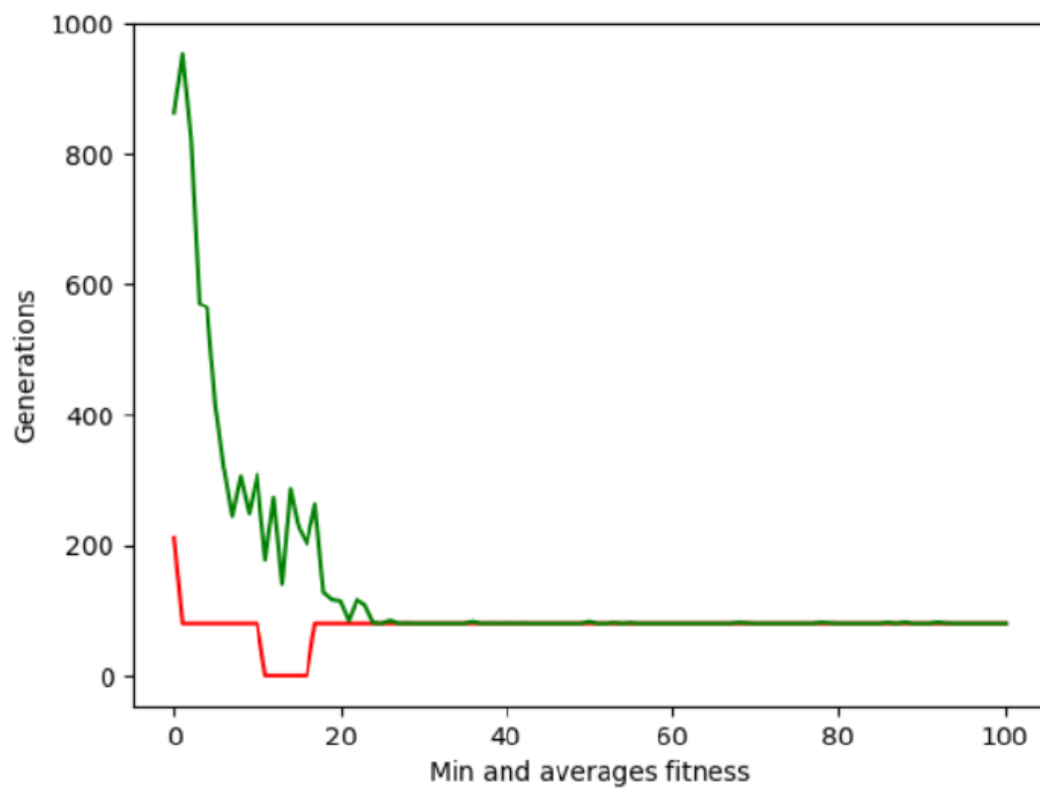
Module not offered violation: 0

Less than five intake violation: 0

Exceed elective module count violation: 0

Module Offered more than twice: 0.5

Total cost: 70000



The Final Schedule of the three programs:

DSBA

```
Jan:  ['RMCP', 'SEM|BIA', 'BSSMA|CIS']
Mac:  ['BDAT', 'BIS', 'TSF|DL', 'ORO|DPM']
May:  ['RMCP', 'ABAV', 'DAP', 'MDA|NLP']
Jul:  ['BDAT', 'AML', 'ORO|DPM', 'MMDA']
Oct:  ['RMCP', 'TSF|DL', 'DM', 'ABAV']
```

AI

```
Jan:  ['RMCE', 'PR', 'IPCV']
Mac:  ['AI', 'ESKE', 'FL', 'DL', 'BIS']
May:  ['RMCE', 'NLP']
Jul:  ['AI', 'ESKE', 'CIO', 'AML', 'MMDA']
Oct:  ['RMCE', 'AR', 'FL', 'DL']
```

SE

```
Jan:  ['RMCE', 'NDP']
Mac:  ['BDAT', 'DM', 'RELM']
May:  ['RMCE', 'SECT', 'NLP']
Jul:  ['BDAT', 'IA', 'MSDP', 'OOSSE']
Oct:  ['RMCE', 'SQE', 'SESE']
```

The schedule generated fulfil all hard constraints requirement while causes minimal violation to the soft constraint. Note that the RMCP and RMCE modules are offered in the first, third and fifth intakes. It is observed that for all three classes the average fitness graph shows that with each iterations, the fitness value decreases and some fluctuations were noticed in the fitness curve of DSBA and SE programs.