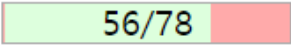
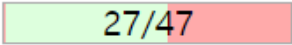


## Task: Mutation Testing

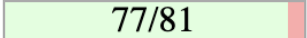
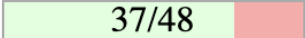
We used Pitest as a mutation testing tool. Using Pitest, we were able to identify numerous classes with a mutation score lower than 70%, and we picked 4 out of them that had the most room for improvement.

### **Class 1 (ReservationController)**

Mutation score before adding tests: 57%

Name	Line Coverage	Mutation Coverage
<a href="#">ReservationController.java</a>	72% 	57% 

Mutation score after adding tests: 71%

<a href="#">ReservationController.java</a>	95% 	77% 
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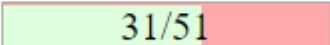
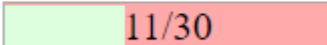
Link to related commits:

- All Commits in MR:

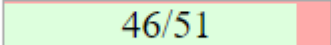
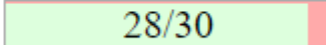
[https://gitlab.ewi.tudelft.nl/cse2115/2021-2022/sem-group-10b/sem-repo-10b/-/merge\\_requests/51/commits](https://gitlab.ewi.tudelft.nl/cse2115/2021-2022/sem-group-10b/sem-repo-10b/-/merge_requests/51/commits)

### **Class 2 (Reservation)**

Mutation score before adding tests: 37%

Name	Line Coverage	Mutation Coverage
<a href="#">Reservation.java</a>	61% 	37% 

Mutation score after adding tests: 93%

Name	Line Coverage	Mutation Coverage
<a href="#">Reservation.java</a>	90% 	93% 

Link to related commits:

- Main commit adding the tests part 1:

<https://gitlab.ewi.tudelft.nl/cse2115/2021-2022/sem-group-10b/sem-repo-10b/-/commit/83ca06e086f791370f43942b8ecbe271012a9404>

- Main commit adding the tests part 2:

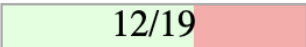
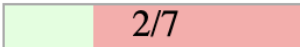
<https://gitlab.ewi.tudelft.nl/cse2115/2021-2022/sem-group-10b/sem-repo-10b/-/commit/d37c4c1243e4c1ddc8b7044a5d9824c81c500c98>

- Fixing checkstyle / PMD:

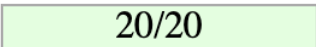
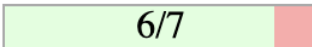
<https://gitlab.ewi.tudelft.nl/cse2115/2021-2022/sem-group-10b/sem-repo-10b/-/commit/c8c99a7b8dc6473ff87e6eea1d7240fca162471b>

### Class 3 (UserService)

Mutation score before adding tests:

Name	Line Coverage	Mutation Coverage
<a href="#">UserService.java</a>	63% 	29% 

Mutation score after adding tests:

Name	Line Coverage	Mutation Coverage
<a href="#">UserService.java</a>	100% 	86% 

Link to related commits:

- Main commit:

<https://gitlab.ewi.tudelft.nl/cse2115/2021-2022/sem-group-10b/sem-repo-10b/-/commit/2490b78dce54205cfe6330dca018c3e81eeb013b>

- Fixing checkstyle / PMD:

<https://gitlab.ewi.tudelft.nl/cse2115/2021-2022/sem-group-10b/sem-repo-10b/-/commit/613ffe74bb8b4b61728de53cd44ac35f379bb891>

### Class 4 (UserController)

Mutation score before adding tests: 10%

Name	Line Coverage	Mutation Coverage
<a href="#">UserController.java</a>	73% 	10% 

Mutation score after adding tests: 78%

Name	Line Coverage	Mutation Coverage
<a href="#">UserController.java</a>	100% 	78% 

Link to related commits:

- Main commit:

<https://gitlab.ewi.tudelft.nl/cse2115/2021-2022/sem-group-10b/sem-repo-10b/-/commit/40cbbf63e0bbb8b42fdb45780296c9d1132924d>