Assignment 3 Part 1

CSE2115: Software Engineering Methods

Group 06b

TUDelft

Assignment 3 Part 1

by

Group 06b

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Automated Mutation Testing

Class Name - OrderCouponImpl

Before the changes, this class had **0%** mutation coverage. After the changes, it has **70%** mutation coverage.

Commit link: fcc856a020939f500c39f2e737ec5e0f18f43f0a

Mutation Test Coverage Report Before:

Pit Test Coverage Report

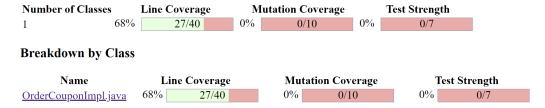### Package Summary

nl.tudelft.sem.group06b.order.service.coupon

Number of Classes	Line Coverage		Mutation Coverage		Test Strength	
1	68%	27/40	0%	0/10	0%	0/7

Breakdown by Class

Name	Line Coverage		Mutation Coverage		Test Strength	
OrderCouponImpl.java	68%	27/40	0%	0/10	0%	0/7

Figure 1.1: OrderCouponImpl mutation score before refactoring

Mutation Test Coverage Report After:

Pit Test Coverage Report

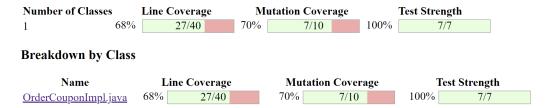### Package Summary

nl.tudelft.sem.group06b.order.service.coupon

Number of Classes	Line Coverage		Mutation Coverage		Test Strength	
1	68%	27/40	70%	7/10	100%	7/7

Breakdown by Class

Name	Line Coverage		Mutation Coverage		Test Strength	
OrderCouponImpl.java	68%	27/40	70%	7/10	100%	7/7

Figure 1.2: OrderCouponImpl mutation score after refactoring

Class Name - MenuPizzaService

Before the changes, this class had **39%** mutation coverage. After the changes, it has **59%** mutation coverage.

Commit link: 7decbc23938e69cfa6606f6a82fa539cf8e96d37

Mutation Test Coverage Report Before:

Pit Test Coverage Report

Package Summary

nl.tudelft.sem.group06b.menu.service

Number of Classes	Line Coverage		Mutation Coverage		Test Strength	
3	73%	157/214	46%	48/105	70%	48/69

Breakdown by Class

Name	Line Coverage		Mutation Coverage		Test Strength	
MenuAllergyService.java	68%	59/87	43%	16/37	73%	16/22
MenuPizzaService.java	72%	59/82	39%	17/44	61%	17/28
MenuToppingService.java	87%	39/45	63%	15/24	79%	15/19

Figure 1.3: MenuPizzaService mutation score before refactoring

Mutation Test Coverage Report After:

Pit Test Coverage Report

Package Summary

nl.tudelft.sem.group06b.menu.service

Number of Classes	Line Coverage		Mutation Coverage		Test Strength	
3	80%	171/214	54%	57/105	72%	57/79

Breakdown by Class

Name	Line Coverage		Mutation Coverage		Test Strength	
MenuAllergyService.java	68%	59/87	43%	16/37	73%	16/22
MenuPizzaService.java	89%	73/82	59%	26/44	68%	26/38
MenuToppingService.java	87%	39/45	63%	15/24	79%	15/19

Figure 1.4: MenuPizzaService mutation score after refactoring

Class Name - MenuAllergyService

Before the changes, this class had **43%** mutation coverage. After the changes, it has **63%** mutation coverage.

Commit link: 502ddd032c5a2db35a9d7a8c5975de9c40b4f07b

Mutation Test Coverage Report Before:

Pit Test Coverage Report

Package Summary

nl.tudelft.sem.group06b.menu.service

Number of Classes	Line Coverage		Mutation Coverage		Test Strength	
3	73%	157/214	46%	48/105	70%	48/69

Breakdown by Class

Name	Line Coverage		Mutation Coverage		Test Strength	
MenuAllergyService.java	68%	59/87	43%	16/37	73%	16/22
MenuPizzaService.java	72%	59/82	39%	17/44	61%	17/28
MenuToppingService.java	87%	39/45	63%	15/24	79%	15/19

Figure 1.5: MenuAllergyService mutation score before refactoring

Mutation Test Coverage Report After:

Pit Test Coverage Report

Package Summary

nl.tudelft.sem.group06b.menu.service

Number of Classes	Line Coverage		Mutation Coverage		Test Strength	
3	75%	161/214	53%	56/105	77%	56/73

Breakdown by Class

Name	Line Coverage		Mutation Coverage		Test Strength	
MenuAllergyService.java	72%	63/87	65%	24/37	92%	24/26
MenuPizzaService.java	72%	59/82	39%	17/44	61%	17/28
MenuToppingService.java	87%	39/45	63%	15/24	79%	15/19

Report generated by PIT 1.9.5

Figure 1.6: MenuAllergyService mutation score after refactoring

Class Name - MenuToppingService

Before the changes, this class had **63%** mutation coverage. After the changes, it has **83%** mutation coverage.

Commit link:
92687911238a56fe94372564c5c11545ad003dad, c2cb7150dbf97672c0d0197e12428eaa842d93f3

Mutation Test Coverage Report Before:

Pit Test Coverage Report

Package Summary

nl.tudelft.sem.group06b.menu.service

Number of Classes	Line Coverage		Mutation Coverage		Test Strength	
3	73%	157/214	46%	48/105	70%	48/69

Breakdown by Class

Name	Line Coverage		Mutation Coverage		Test Strength	
MenuAllergyService.java	68%	59/87	43%	16/37	73%	16/22
MenuPizzaService.java	72%	59/82	39%	17/44	61%	17/28
MenuToppingService.java	87%	39/45	63%	15/24	79%	15/19

Figure 1.7: MenuToppingService mutation score before refactoring

Mutation Test Coverage Report After:

Pit Test Coverage Report

Package Summary

nl.tudelft.sem.group06b.menu.service

Number of Classes	Line Coverage		Mutation Coverage		Test Strength	
3	75%	160/214	50%	53/105	75%	53/71

Breakdown by Class

Name	Line Coverage		Mutation Coverage		Test Strength	
MenuAllergyService.java	68%	59/87	43%	16/37	73%	16/22
MenuPizzaService.java	72%	59/82	39%	17/44	61%	17/28
MenuToppingService.java	93%	42/45	83%	20/24	95%	20/21

Report generated by PIT 1.9.5

Figure 1.8: MenuToppingService mutation score after refactoring

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