

SOLUZIONE (PARTE)

1. JAVA + TESTING

....

Scrivo il caso di test:

```
@Test    public void testDueCicli()
```

...

ho copertura:

Test Sessions Coverage Boolean Analyzer Pick Test Cases Correlation Problems

☐ Show methods with Statement Coverage <= 90,5 %

Name	Statement	Branch	Loop	Term	?-Operator	Synchronized
▼ GARGANTINI_semafor	84,6 %	75,0 % ?		60,0 % ?		?
> Semaforo	84,6 %	75,0 % ?		60,0 % ?		?

Alcuni statement non vengono coperti. In particolare i return false non vengono mai coperti.

Scrivo un caso di test solo per quelli (`public class StatementCoverage`)

Otengo copertura 100% anche del branch.

☐ Show methods with Statement Coverage <=

Name	Statement	Branch
> GARGANTINI_semafor	100,0 %	100,0 %

MCDC coverage

Voglio coprire con MCDC questa decisione:

```
// controllo gli input  
if (sem < 0 || sem > 1 || color < 0 || color > 2)  
    return false;  
// stato = rosso
```

Essendo in OR, devo prendere tutte false tranne quella che voglio testare

sem < 0	sem > 1	color < 0	color > 2	DEC	
T	F	F	F	T	
F	F	F	F	F	
F	T	F	F	T	
F	F	F	F	F	Skip vedi 1
F	F	T	F	T	
F	F	F	T	T	

Otengo copertura 100% sulla decisione:

Class: Semaforo		Condition: (((sem < 0 OR sem > 1) OR color < 0) OR color > 2)											
(	(	(	sem < 0	OR	sem > 1	)	OR	color < 0	)	OR	color > 2	)	Result
			F	F	F		F	F		F	F		0
			F	T	T		T	x		T	x		1
			F	F	F		F	F		T	T		1
			T	T	x		T	x		T	x		1
			F	F	F		T	T		T	x		1

color == 2 && luce[sem] == 1

TT →

FT →

TF

Class: Semaforo		Condition: (color == 2 AND luce[sem] == 1)									
(	color == 2	AND	luce[sem] == 1	)	Result	Test Cases (Number of Executions)					
	T	F	F		0	MCDCTest:testDec2 (1) Coverage: 25,0					
	F	F	x		0	MCDCTest:testDec1 (1), MCDCTest:testDec2 (3) Coverage: 25,0					
	T	T	T		1	MCDCTest:testDec2 (1) Coverage: 50,0					

Altre decisioni

Class: Semaforo		Condition: ((color == 0 AND luce[sem] == 2) AND luce[altroSem] == 2)							
(	(	color == 0	AND	luce[sem] == 2	)	AND	luce[altroSem] == 2	)	Result
		T	T	T		F	F		0
		T	F	F		F	x		0
		T	T	T		T	T		1
		F	F	x		F	x		0

Name	Statement	Branch	Loop	Term
▼ GARGANTINI_semafor	100,0 %	100,0 %	?	100,0...
▼ Semaforo	100,0 %	100,0 %	?	100,0...
Semaforo	100,0 %	—	?	—
changeColor	100,0 %	100,0 %	?	100,0...
toString	100,0 %	—	?	—

Randoop

- ▼ > randoop
 - > RandoopTest.java
 - > RandoopTest0.java
 - > RandoopTest1.java
 - > RandoopTest2.java
 - > RandoopTest3.java
 - > RandoopTest4.java
 - > RandoopTest5.java
 - > RandoopTest6.java
 - > RandoopTest7.java
 - > RandoopTest8.java
- JRE System Library [JavaSE-1.7]
- JUnit 4
- codacover

Test Sessions Coverage Boolean Analyzer Pick Test Cases Correlation Problems Co							
<input type="checkbox"/> Show methods with Statement Coverage <= 90,5 %							
Name	Statement	Branch	Loop	Term	?-Operator	Synchron	
▼ GARGANTINI_semafor	100,0 %	100,0 %	?	100,0...	?	?	
▼ Semaforo	100,0 %	100,0 %	?	100,0...	?	?	
Semaforo	100,0 %	—	?	—	?	?	
changeColor	100,0 %	100,0 %	?	100,0...	?	?	
toString	100,0 %	—	?	—	?	?	