

**CS 1632 Software Quality Assurance**

**Exercise 1**

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1. **Traceability Matrix**

FUN-ARGS-NUMBER:

FUN-ARGS-INVALID:

FUN-DISPLAY-RESULTS:

FUN-DISPLAY-ITERATIONS:

FUN-SMALL-NUM:

1. **Test Cases**

IDENTIFIER: TEST-STANDARD-ARGS

TEST CASE: Test conducted with all valid arguments that are perceived to be interior cases

PRECONDITIONS: Command line is empty

EXECUTION STEPS:

* Type “java -jar GoatGoatCar.jar Car Goat 1000 1” into command line
* Press Enter

POSTCONDITIONS: Expect terminal screen to print the following, where percentages  
may vary:

Thread 0: 1000 iterations.

Calculating..

Switch:

Car : %

Goat : %

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Stay:

Car : %

Goat : %

IDENTIFIER: TEST-NO-ARGS

TEST CASE: Test conducted with no arguments passed to the program on the command line

PRECONDITIONS: Command line is empty

EXECUTION STEPS:

* Type “java -jar GoatGoatCar.jar” into command line
* Press Enter

POSTCONDITIONS: Expect terminal screen to print “Usage: java -jar GoatGoatCar.jar <good\_choice> <bad\_choice> <num\_times> <num\_threads>”

IDENTIFIER: TEST-NONNUMBER-THREAD-COUNT

TEST CASE: Test conducted with valid arguments, except for thread count, which should be a non-numeric input

PRECONDITIONS: [State of system before performing execution steps]

EXECUTION STEPS:

* Type “java -jar GoatGoatCar.jar Car Goat 1000 a” into command line
* Press Enter

POSTCONDITIONS: Expect terminal screen to print “Usage: java -jar GoatGoatCar.jar <good\_choice> <bad\_choice> <num\_times> <num\_threads>”

IDENTIFIER: TEST-NONMULTIPLE-THREADS

TEST CASE: Test conducted with valid arguments, where number of threads is not a multiple of the number of times argument

PRECONDITIONS: Command line is empty

EXECUTION STEPS:

* Type “java -jar GoatGoatCar.jar Car Goat 200 3” into command line
* Press Enter

POSTCONDITIONS: Expect terminal screen to print number of iterations for each thread, where one of the threads is different than the other threads by at most one, and all iterations still add to number of times argument (200 in this case).

1. **Defects**

Write your defects here.