

Project 1 Black Box Test Plan

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Date: 2/26/17

Introduction

Provide a brief overview of your black box test plan. Describe how you would start your application.

Once the application is run, a panel will pop up asking for number of carts and the number of registers to enter. Once entered the valid numbers for each and pressed "Start", the panel shows the running simulation indicating the number of carts, number of registers, animation speed, and progress. Once the time is over, the Average wait time and average check-out time of the carts are shown in the simulation. The panel can be closed if desired.

Test ID	Description	Expected Results	Actual Results
1. testQuit	Preconditions: The simulation is started through running the program. A panel appears. Add "900" into number of carts and add "4" into number of registers. Press "Quit" Test description (repeatable and specific)	A panel appears. That panel has two inputs and two buttons. The inputs are number of carts and number registers and the two buttons are "Start" and "Quit" Input is added. The panel disappears when "Quit" is pressed.	A panel appears. That panel has two inputs and two buttons. The inputs are number of carts and number registers and the two buttons are "Start" and "Quit" Input is added. The panel disappears when "Quit" is pressed.

Test ID	Description	Expected Results	Actual Results
2. testInvalidCarts	Preconditions: The simulation is started through running the program. A panel appears. Add "-1" into number of carts and add "9" into number of registers. Press "Start"	A panel appears. That panel has two inputs and two buttons. The inputs are number of carts and number registers and the two buttons are "Start" and "Quit" Input is added. The current panel disappears and another panel appears. It says "There must be at least one shopping cart in	A panel appears. That panel has two inputs and two buttons. The inputs are number of carts and number registers and the two buttons are "Start" and "Quit" Input is added. The current panel disappears and another panel appears. It says "There must be at

	Test description (repeatable and specific)	the simulation.” “Okay” is pressed on the panel and then the main panel is brought back again with the “Start” and “Quit” buttons enabled.	least one shopping cart in the simulation.” “Okay” is pressed on the panel and then the main panel is brought back again with the “Start” and “Quit” buttons enabled.
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Test ID	Description	Expected Results	Actual Results
3. testInvalidRegisters	<p>Preconditions: The simulation is started through running the program.</p> <p>A panel appears.</p> <p>Add “100” into number of carts and add “2” into number of registers.</p> <p>Press “Start”</p> <p>Test description (repeatable and specific)</p>	<p>A panel appears. That panel has two inputs and two buttons.</p> <p>The inputs are number of carts and number registers and the two buttons are “Start” and “Quit”</p> <p>Input is added.</p> <p>Another panel appears.</p> <p>It says “Number of registers must be between 3 and 12 inclusive.”</p> <p>“Okay” is pressed on the panel</p>	<p>A panel appears. That panel has two inputs and two buttons.</p> <p>The inputs are number of carts and number registers and the two buttons are “Start” and “Quit”</p> <p>Input is added.</p> <p>Another panel appears.</p> <p>It says “Number of registers must be between 3 and 12 inclusive.”</p> <p>“Okay” is pressed on the panel</p>

Test ID	Description	Expected Results	Actual Results
4. testNonIntegerCarts	<p>Preconditions: The simulation is started through running the program.</p> <p>A panel appears.</p> <p>Add “a” into number of carts and add “5” into number of registers.</p> <p>Press “Start”</p> <p>Test description (repeatable and specific)</p>	<p>A panel appears. That panel has two inputs and two buttons.</p> <p>The inputs are number of carts and number registers and the two buttons are “Start” and “Quit”</p> <p>Input is added.</p> <p>It says “The number of shipping carts must be an integer.”</p> <p>“Okay” is pressed on the panel</p>	<p>A panel appears. That panel has two inputs and two buttons.</p> <p>The inputs are number of carts and number registers and the two buttons are “Start” and “Quit”</p> <p>Input is added.</p> <p>It says “The number of shipping carts must be an integer.”</p> <p>“Okay” is pressed on the</p>

			panel

Test ID	Description	Expected Results	Actual Results
5. testSimulationSpeed	Preconditions: The simulation is started through running the program. “400” is entered for the number of carts and “10” is added for the number of register. The speed bar is moved to the right “Start” is pressed	The simulation runs but with higher speed than normal. Large number of carts are processed in a relatively short period of time.	The simulation runs but with higher speed than normal. Large number of carts are processed in a relatively short period of time.

Test ID	Description	Expected Results	Actual Results
6. testExpressRegister	Preconditions: The simulation is started through running the program. “50” is entered for the number of carts and “5” is added for the number of register. “Start” is pressed	5 registers pop up in the simulation. The left most register handles green carts only (and is just one)	5 registers pop up in the simulation. The left most register handles green carts only (and is just one)

Test ID	Description	Expected Results	Actual Results
7. testRightMostRegister	Preconditions: The simulation is started through running the program. “5000” is entered for the number of carts and “10” is added for the number of register. Speed is increased to full “Start” is pressed	10 registers pop up in the simulation. As the simulation runs really fast, the right-most 3 registers are handling red (special) carts mostly (representing 25% percent of the registers).	10 registers pop up in the simulation. As the simulation runs really fast, the right-most 3 registers are handling red (special) carts mostly (representing 25% of the registers).

Test ID	Description	Expected Results	Actual Results
8. testMiddleRegister	Preconditions: The simulation is started through running the program. "200" is entered for the number of carts and "5" is added for the number of register. "Start" is pressed	The simulation has 5 registers, the middle two handle (almost all of the times) blue carts.	The simulation has 5 registers, the middle two handle (almost all of the times) blue carts.

Test ID	Description	Expected Results	Actual Results
9. testRegisterUpperBoundary	Preconditions: The simulation is started through running the program. "20" is entered for the number of carts and "12" is added for the number of register. "Start" is pressed	The simulation runs normally.	The simulation runs normally.

Test ID	Description	Expected Results	Actual Results
10. testRegisterLowerBoundary	Preconditions: The simulation is started through running the program. "17" is entered for the number of carts and "3" is added for the number of register. "Start" is pressed	The simulation runs normally.	The simulation runs normally.

Test ID	Description	Expected Results	Actual Results
11. testAverageTimeValidity	Preconditions: The simulation is started through running the program. "15" is entered for the number of carts and "6" is added for the number of register. "Start" is pressed	The simulation runs and ends. The average wait time and the average process time are both in decimals.	The simulation runs and ends. The average wait time and the average process time are both in decimals.

Test ID	Description	Expected Results	Actual Results
12. testRunTimeStaticity	Preconditions: The simulation is started through running the program. "150" is entered for the number of carts and "3" is added for the number of register. "Start" is pressed	The simulation runs. While running, all buttons and features (Start, Quit, input boxes, speed time bar) are disabled.	The simulation runs. While running, all buttons and features (Start, Quit, input boxes, speed time bar) are disabled.

Test ID	Description	Expected Results	Actual Results
13. testInvalidCarts	Preconditions: The simulation is started through running the program. A panel appears. Add "-1" into number of carts and add "5" into number of registers. Press "Start" Test description (repeatable and specific)	A panel appears. That panel has two inputs and two buttons. The inputs are number of carts and number registers and the two buttons are "Start" and "Quit" Input is added. It says "The number of shipping carts must be an integer." "Okay" is pressed on the panel	A panel appears. That panel has two inputs and two buttons. The inputs are number of carts and number registers and the two buttons are "Start" and "Quit" Input is added. It says "The number of shipping carts must be an integer." "Okay" is pressed on the panel