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Project 1 Test plan

Calling Function	Variable	Test case	Input values	Driver functions	Expected outcomes	Actual outcomes
mainMenu	userChoice	Negative number	Input < 0	antValidate() mainMenuValidate() do ... if ... while()	Sentinel variable prevents while-loop exit. Continuous loop prompts user to re-enter different value.	Sentinel variable prevents while-loop exit. Continuous loop prompts user to re-enter different value.
		Out of bounds: High	Input > 2			
		Out of bounds: Low	Input < 1			
		First digit: Letter	Input == a			
		First digit: Non-numeric	Input == /			
		First digit: Blank	Input == 3			
		Space	Input ==			
		Multiple digits	Input == 123			
		Correct range	Input == 1		Integer 1 or 2 is returned to calling function.	Integer 1 or 2 is returned to calling function.
gameInfo	boardRows	Extremely large number	Input == 1000	antValidate() boardInfoValidate() do ... if ... while()	A large vertical game board is produced. Iterations of Langton's ant are not impacted.	Game board iterations past a certain point (around 478) are no longer accessible when attempting to scroll through entire output.
		Negative number	Input < 0		Sentinel variable prevents while-loop exit. Continuous loop prompts user	Sentinel variable prevents while-loop exit. Continuous loop prompts user
		Out of bounds: Low	Input < 1			
		First digit: Letter	Input == a			
		First digit: Non-numeric	Input == /			

		First digit: Blank	Input == 3		to re-enter different value.	to re-enter different value.
		Space	Input ==		A game board of height 1 is produced. Does not impact game operation.	A game board of height 1 is produced. Does not impact game operation.
		Small number	Input == 1		Sentinel variable prevents while-loop exit. Continuous loop prompts user to re-enter different value.	Sentinel variable prevents while-loop exit. Continuous loop prompts user to re-enter different value.
	boardCols	Negative number	Input < 0		A game board of width 1 is produced. Does not impact game operation.	A game board of width 1 is produced. Does not impact game operation.
		Out of bounds: Low	Input < 1		A large horizontal game board is produced. Iterations of Langton's ant are not impacted.	Formatting is unreadable. However, the program runs.
		First digit: Letter	Input == a		Sentinel variable prevents while-loop exit. Continuous loop prompts user to re-enter different value.	Sentinel variable prevents while-loop exit. Continuous loop prompts user to re-enter different value.
		First digit: Non-numeric	Input == /		1 iteration of Langton's ant is output to consol.	1 iteration of Langton's ant is output to consol.
		First digit: Blank	Input == 3			
		Space	Input ==			
		Small number	Input == 1			
		Extremely large number	Input == 1000			
	userSteps	Negative number	Input < 0			
		Out of bounds: Low	Input < 1			
		First digit: Letter	Input == a			
		First digit: Non-numeric	Input == /			
		First digit: Blank	Input == 3			
		Space	Input ==			
		Small number	Input == 1			

		Extremely large number	Input == 1000		1000 iterations of Langton's ant are output to consol.	1000 iterations of Langton's ant are output to consol.
	startCol	Out of bounds: Low	Input < 1		Sentinel variable prevents while-loop exit. Continuous loop prompts user to re-enter different value.	Sentinel variable prevents while-loop exit. Continuous loop prompts user to re-enter different value. Sometimes, user prompt iterates twice.
		First digit: Letter	Input == a			
		First digit: Non-numeric	Input == /			
		First digit: Blank	Input == 3			
		Space	Input ==			
		Out of bounds: High	Input > boardCols			
		Correct range	boardCols <= Input >=1		Ant character placed on appropriate spot on game board.	Ant character placed on appropriate spot on game board.
	startRow	Out of bounds: Low	Input < 1		Sentinel variable prevents while-loop exit. Continuous loop prompts user to re-enter different value.	Sentinel variable prevents while-loop exit. Continuous loop prompts user to re-enter different value. Sometimes, user prompt iterates twice.
		First digit: Letter	Input == a			
		First digit: Non-numeric	Input == /			
		First digit: Blank	Input == 3			
		Space	Input ==			
		Out of bounds: High	Input > boardRows			
		Correct range	boardRows <= Input >= 1		Ant character placed on appropriate spot on game board.	Ant character placed on appropriate spot on game board.
endMenu	userInput	Out of bounds: Low	Input < 1	antValidate() mainMenuValidate do ... if ... while()	Sentinel variable prevents while-loop exit. Continuous loop prompts user	Sentinel variable prevents while-loop exit. Continuous loop prompts user
		Out of bounds: High	Input > 2			
		First digit: Letter	Input == a			
		First digit: Non-numeric	Input == /			
		First digit: Blank	Input == 3			

		Space	Input ==		to re-enter different value.	to re-enter different value.
		Multiple digits	Input == 123		Integer 1 or 2 is returned to calling function.	Integer 1 or 2 is returned to calling function.
		Correct range	Input == 1			