Testing Plan

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| Program Display | User Input | Expected Result | Observations |
| “1. Start Langston’s Ant simulation  2. Quit  Enter your choice: “ | 1 | “You entered 1. Game started.” |  |
| “1. Start Langston’s Ant simulation  2. Quit  Enter your choice: “ | 2 | “You entered 2. Quitting game.” |  |
| “1. Start Langston’s Ant simulation  2. Quit  Enter your choice: “ | 0 | “Please enter a 1 or a 2.” | Program should continue to ask for input until it receives a valid response from the user. |
| “1. Start Langston’s Ant simulation  2. Quit  Enter your choice: “ | Any negative integer | “Please enter a 1 or a 2.” |  |
| “1. Start Langston’s Ant simulation  2. Quit  Enter your choice: “ | Any character that isn’t a positive integer | “Please enter a 1 or a 2.” |  |
| “Please select your board size. Here are your options:  1: Create my own board.  2. Create a board for me.” | 1 | “You’ve chosen to create your own board.” |  |
| “Please select your board size. Here are your options:  1: Create my own board.  2. Create a board for me.” | 2 | “You entered 2. Creating a 10x10 board for you.” |  |
| “Please select your board size. Here are your options:  1: Create my own board.  2. Create a board for me.” | Any negative integer; any character that isn’t a positive integer | “Please enter a 1 or 2.” |  |
| “You’ve chosen to create your own board. Please enter the number of rows you want for the starting board size: “ | Any positive integer |  |  |
| “You’ve chosen to create your own board. Please enter the number of rows you want for the starting board size: “ | 0 | “Please enter an integer greater than 0.” |  |
| “You’ve chosen to create your own board. Please enter the number of rows you want for the starting board size: “ | Any negative integer | “Please enter an integer greater than 0.” |  |
| “You’ve chosen to create your own board. Please enter the number of rows you want for the starting board size: “ | Any positive integer | “Please enter the number of columns you want for the starting board size.” |  |
| “Please enter the number of columns you want for the starting board size.” | 0 | “The number of columns must be an integer greater than 0! Try again!” |  |
| “Please enter the number of columns you want for the starting board size.” | Any negative integer | “The number of columns must be an integer greater than 0! Try again!” |  |
| “Please enter the number of columns you want for the starting board size.” | Any positive integer | “Please enter the number of steps that you want the ant to take, as long as the number is greater than zero:” |  |
| “Please enter the number of steps that you want the ant to take, as long as the number is greater than zero:” | 0 | “The number of steps must be an integer greater than 0! Try again!” |  |
| “Please enter the number of steps that you want the ant to take, as long as the number is greater than zero:” | Any character that isn’t a positive integer | “The number of steps must be an integer greater than 0! Try again!” |  |
| “Now that you’ve chosen your board size and decided step count, where would you like your ant to start?  1: I will choose my starting location.  2. Choose a starting location for me.” | 1 | “Enter the row number (starting at row 1) in which you would like the ant to start at:” |  |
| “Now that you’ve chosen your board size and decided step count, where would you like your ant to start?  1: I will choose my starting location.  2. Choose a starting location for me.” | 2 | Begin simulation |  |
| “Now that you’ve chosen your board size and decided step count, where would you like your ant to start?  1: I will choose my starting location.  2. Choose a starting location for me.” | Any letter | “Please enter an integer, either 1 or 2.” |  |
| “Now that you’ve chosen your board size and decided step count, where would you like your ant to start?  1: I will choose my starting location.  2. Choose a starting location for me.” | Any integer not a 1 or a 2 | “Please enter a 1 or a 2.” |  |
| “Enter the row number (starting at row 1) in which you would like the ant to start at:” | 0 | “Enter the row number (starting at row 1) in which you would like the ant to start at:” |  |
| “Enter the row number (starting at row 1) in which you would like the ant to start at:” | Any character that isn’t a positive integer. | “Enter the row number (starting at row 1) in which you would like the ant to start at:” |  |
| “Enter the row number (starting at row 1) in which you would like the ant to start at:” | Any positive integer within the specified number of rows. | Begin simulation |  |
| “Enter the row number (starting at row 1) in which you would like the ant to start at:” | Any positive integer outside the specified number of rows. | “Enter the row number (starting at row 1) in which you would like the ant to start at:” |  |
| “Enter the column number (starting at column 1) in which you would like the ant to start at:” | 0 | “Enter the column number (starting at column 1) in which you would like the ant to start at:” |  |
| “Enter the column number (starting at column 1) in which you would like the ant to start at:” | Any character that isn’t a positive integer. | “Enter the column number (starting at column 1) in which you would like the ant to start at:” |  |
| “Enter the column number (starting at column 1) in which you would like the ant to start at:” | Any positive integer within the specified number of columns. | Begin simulation |  |
| “Enter the column number (starting at column 1) in which you would like the ant to start at:” | Any positive integer outside the specified number of columns. | “Enter the column number (starting at column 1) in which you would like the ant to start at:” |  |
| “Would you like to run the simulation again? (Y/N)” | Y or y | Display main menu |  |
| “Would you like to run the simulation again? (Y/N)” | N or n | Exit program |  |