**Predator-Prey Game Menu Input Test Plan:**

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| Test Case | Input Values | Driver Functions | Expected Outcomes | Observed Outcomes |
| Input does not contain digits | Input contains letters, symbols, spaces or the ENTER key | main()  In Menu class:  mainMenu()  inputVal() | Loops back to prompt letting user know it was invalid and to enter it again. | Loops back to prompt letting user know it was invalid and to enter it again. |
| Input contains digits but starts with a nondigit | Input contains letters, symbols, spaces or the ENTER key in front of the first digit | main()  In Menu class:  mainMenu()  inputVal() | Loops back to prompt letting user know it was invalid and to enter it again. | Loops back to prompt letting user know it was invalid and to enter it again. |
| Input contains digits mixed with nondigit characters | Input contains letters, symbols, spaces or the ENTER key spread between the digits | main()  In Menu class:  mainMenu()  inputVal() | Loops back to prompt letting user know it was invalid and to enter it again. | Loops back to prompt letting user know it was invalid and to enter it again. |
| User first  types ENTER at the prompt. No other input. | Input is empty but ENTER was hit. | main()  In Menu class:  mainMenu()  inputVal() | Loops back to prompt letting user know it was invalid and to enter it again. | Loops back to prompt letting user know it was invalid and to enter it again. |
| Input is a number with a decimal point (float) | Input is a float containing digits and a decimal point. | main()  In Menu class:  mainMenu()  inputVal() | Loops back to prompt letting user know it was invalid and to enter it again. | Loops back to prompt letting user know it was invalid and to enter it again. |
| Input is correct for option to play the simulation | Input = “1” | main()  In Menu class:  mainMenu() | Game Options menu starts | Game Options menu starts |
| Input is correct for the first menu, 2nd option (quit program) | Input = “2” | main()  In Menu class:  mainMenu() | Program quits and exits back to command prompt | Program quits and exits back to command prompt |
| Input is too low for number of time steps | Input < 1 | main()  In Menu class:  mainMenu()  inputVal() | Loops back to prompt letting user know it was invalid and to enter it again. | Loops back to prompt letting user know it was invalid and to enter it again. |
| Input is too high for number of steps | Input > 12000 | main()  In Menu class:  mainMenu()  inputVal() | Loops back to prompt letting user know it was invalid and to enter it again. | Loops back to prompt letting user know it was invalid and to enter it again. |
| Input is too low for number of rows | Input < 10 | main()  In Menu class:  mainMenu()  inputVal() | Loops back to prompt letting user know it was invalid and to enter it again. | Loops back to prompt letting user know it was invalid and to enter it again. |
| Input is too high for number of rows | Input > 100 | main()  In Menu class:  mainMenu()  inputVal() | Loops back to prompt letting user know it was | Loops back to prompt letting user know it was |
| Input is too low for number of columns | Input < 10 | main()  In Menu class:  mainMenu()  inputVal() | Loops back to prompt letting user know it was invalid and to enter it again. | Loops back to prompt letting user know it was invalid and to enter it again. |
| Input is too high for number of columns | Input > 100 | main()  In Menu class:  mainMenu()  inputVal() | Loops back to prompt letting user know it was | Loops back to prompt letting user know it was |
| Input is too low for minimum number of ants  (need at least one ant) | Input < 1 | main()  In Menu class:  mainMenu()  inputVal() | Loops back to prompt letting user know it was invalid and to enter it again. | Loops back to prompt letting user know it was invalid and to enter it again. |
| Input is too high for maximum number of ants  (maxAnt) | Input > maxAnts  (maxAnt is calculated  by multiplying  0.25\*row\*col) | main()  In Menu class:  mainMenu()  inputVal() | Loops back to prompt letting user know it was invalid and to enter it again. | Loops back to prompt letting user know it was invalid and to enter it again. |
| Input is too low for minimum number of doodlebugs  (need at least one doodlebug) | Input < 1 | main()  In Menu class:  mainMenu()  inputVal() | Loops back to prompt letting user know it was invalid and to enter it again. | Loops back to prompt letting user know it was invalid and to enter it again. |
| Input is too high for maximum number of doodlebugs  (maxDoodle) | Input > maxDoodle  (maxDoodle is calculated  by multiplying  0.01\*row\*col) | main()  In Menu class:  mainMenu()  inputVal() | Loops back to prompt letting user know it was invalid and to enter it again. | Loops back to prompt letting user know it was invalid and to enter it again. |
| Input is in correct range | time steps:  1 <= Input <= 12000  rows/col:  10 <= Input <= 100  ants:  1 <= Input <= maxAnt  doodlebugs:  1 <= Input <=maxDoodle | main()  menu()  inputVal()  ***TODO:***  which constructors are called depends on what classes we make | Board is generated with ants and doodlebugs on it and simulation runs the entered number of steps, printing a new board for each step. | Board is generated with ants and doodlebugs on it and simulation runs the entered number of steps, printing a new board for each step. |