**Assignment 3 Solution Template**

Fill in the information for each test that you develop for the 4 tables below. Add more rows as required to list all possible tests for each type. Do not repeat tests which have already been used to test a particular description. Use as many rows as needed to capture all of your tests. Each of the four tables may span more than one page if necessary.

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|  |  | **Representative Input Tests** | |  |  |
| **Test #** | **Test Description** | **Test Data** | **Expected Result** | **Actual Result** | **Pass/Fail** |
| 1 | Normal Range Input | temperate, 10, 15, 20, 10 | 20 entries, id, random ages, health, coordinates, and  gender | 20 entries, id, random ages, health, coordinates,  and gender | pass |
| 2 | Normal range input | Tundra, 15, 10, 10, 10 | 10 entries, random age and health, coordinates 0-15, 0-10, and random gender | 10 entries, random age and health, coordinates 0-15, 0-10, and random gender | pass |
| 3 | Normal range input | Tropical, 20, 20, 15, 10 | 15 entries, random age and health, coordinates 0-20 for x and y, random age and gender | 15 entries, random age and health, coordinates 0-20 for x and y, random age and gender | pass |

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| **Functional Coverage Tests** | | | | | |
| **Test #** | **Test Description** | **Test Data** | **Expected Result** | **Actual Result** | **Pass/Fail** |
| 1 | Run twice with same input to verify randomness | tundra, 8, 9, 11, 10 | 11 entries at each run, different values each time | 11 entries at each run, different values each time | Pass |
| 2 | Foxes younger than 3 have 7-10 health | Tropical, 20, 20, 10, 2 | 10 entries composed of foxes younger than 3 to make sure they have 7 to 10 health | 10 entries of foxes with 7 to 10 health | pass |
| 3 | Each fox has a different id | Temperate, 20, 20, 10, 10 | 10 rows of foxes with unique ids that don’t repeat | Each id is different per fox | pass |
| 4 | Foxes in the top 20% of the tundra have their health reduced from 1 - 4 | Tundra, 100, 100, 50, 10 | The top 20% of y coordinate foxed should have 1 – 4 health | Foxes in the top 20% have any amount of health despite age | fail |
| 5 | Foxes in the bottom 20% of the tropical climate should have their health reduced between 1 - 4 | Tropical, 100, 100, 50, 10 | The bottom 20% y coordinate values should have reduced health | Foxes in the bottom 20% did have less health | pass |
| 6 | Temperate climate foxes have their health deteriorate after 5 years | Temperate, 100, 100, 50, 10 | The foxes older than 5 should have 1 – 4 health | The older foxes have 1 – 4 health | pass |

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|  |  | **Boundary Values Tests** | |  |  |
| **Test #** | **Test Description** | **Test Data** | **Expected Result** | **Actual Result** | **Pass/Fail** |
| **1** | Test grid sizes | tundra, 1, 1, 10, 10 | X and Y coordinates only 0s and 1s | X and Y coordinates only 0s and 1s | Pass |
| 2 | Test grid size | Temperate, 0, 1, 10, 10 | Program does not run, reenter coordinate | Program asks to reenter the coordinate | Pass |
| 3 | Test population boundaries | Temperate, 10, 10, 1, 10 | The foxes display as normal, but there is only one fox | There is only one fox | Pass |
| 4 | Test age boundaries | Temperate, 10, 10, 10, 1 | The foxes are all 1 for age | The age column is all 1 | Pass |
| 5 | Test age limit | Temperate, 10, 10, 10, 100 | The foxes have a boundary of 10 health | The maximum health is displayed as 10 | Pass |

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|  |  | **Special Values Tests** | |  |  |
| **Test #** | **Test Description** | **Test Data** | **Expected Result** | **Actual Result** | **Pass/Fail** |
| 1 | Test climate with -1 for x | tundra, -1 | Reenter Prompt/error | Reenter prompt | Pass |
| 2 | Test incorrect climate | hotdog | Enter an input error or reenter prompt | Error and reenter prompt | Pass |
| 3 | Negative health input | Temperate, 10, 10, 10, -1 | Error message and a reenter prompt | Error and reenter prompt | Pass |
| 4 | Zero for coordinates | Temperate, 0 | Reenter coordinates | Program asks to reenter coordinates | Pass |
| 5 | Symbols and letters for coordinates | Temperate, $, #, 10, 10 | The program should ask to reenter the coordinates | The program lets you reenter the coordinates | Pass |