# Test Case Metrics Summary

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | Phase I:  Plotting Line Graph | Phase II:  Random Walks | Phase III:  Rolling Dice | Total |
| Number of test cases planned: | 3 | 3 |  |  |
| Test Cases Executed: | 3 | 3 |  |  |
| Test Cases Passed: | 3 | 2 |  |  |
| Test Cases Failed: | 0 | 1 |  |  |

# Unit Test Cases

## Phase I: Plotting Line Graph

|  |  |  |  |
| --- | --- | --- | --- |
| Software Requirement Negative Number | | | |
| Related Code | | Related Output/Image | |
|  | |  | |
| Unit Test | | | |
| Description: This test is to see how the chart handles the negative numbers as an input. Here we enter negative x as the input, and for the y values since it’s squared they’re all positive. | | | |
| Recommendations: | | | |
| Passed? | Yes | **Comments:** |  |

|  |  |  |  |
| --- | --- | --- | --- |
| Software Requirement Large Number | | | |
| Related Code | | Related Output/Image | |
|  | |  | |
| Unit Test | | | |
| Description: In this test we are testing making a graph with extremely large numbers. For this we use a range of 50000, and when they start to get squared they end up really big. | | | |
| Recommendations: Don’t use numbers this large. | | | |
| Passed? | Yes | **Comments:** | **Computer was struggleing when handling these numbers. Resizing the window was jittery.** |

|  |  |  |  |
| --- | --- | --- | --- |
| Software Requirement Crossing Zero | | | |
| Related Code | | Related Output/Image | |
|  | |  | |
| Unit Test | | | |
| Description: This is a test to see how the graph handles crossing 0. In this test we are using a color map that fades out while it approaches 0. | | | |
| Recommendations: Don’t use the colormap so we can keep a solid color going throughout the entire graph for readability. | | | |
| Passed? | Yes | **Comments:** |  |

## Phase II: Random Walk

|  |  |  |  |
| --- | --- | --- | --- |
| Software Requirement Plot instead of Scatter | | | |
| Related Code | | Related Output/Image | |
|  | |  | |
| Unit Test | | | |
| Description: This is a test creatign the scatter plot with an actual line. The book said to swap to using plot and a size of 5000 to simulate the molecular motion of a pollen grain on the surface of the water. Left 2 scatter values for emphasis on the first and last point. | | | |
| Recommendations: | | | |
| Passed? | Yes | **Comments:** |  |

|  |  |  |  |
| --- | --- | --- | --- |
| Software Requirement Keep Running | | | |
| Related Code | | Related Output/Image | |
|  | |  | |
| Unit Test | | | |
| Description: Did more test cases for inputs when deciding to do more walks. | | | |
| Recommendations: | | | |
| Passed? | No | **Comments:** | **Could improve by having an “if y” “elif n” “Else: enter valid choice”** |

|  |  |  |  |
| --- | --- | --- | --- |
| Software Requirement Modified Random Walks | | | |
| Related Code | | Related Output/Image | |
|  | |  | |
| Unit Test | | | |
| Description: Doubled the potential distance of the walks. | | | |
| Recommendations: | | | |
| Passed? | Yes | **Comments:** | **The walk potted fine, it does seem like it spread out a bit more but not too noticable.** |

## Phase III: Dice Roll

|  |  |  |  |
| --- | --- | --- | --- |
| Software Requirement 2d8 with Large Roll Number | | | |
| Related Code | | Related Output/Image | |
|  | |  | |
| Unit Test | | | |
| Description: Test to change the number of sides of the dice. Used list comprehension to automatically adjust the labels. We are also working with an extremely large number. | | | |
| Recommendations: | | | |
| Passed? | Yes | **Comments:** |  |

|  |  |  |  |
| --- | --- | --- | --- |
| Software Requirement Rolling 3d6 | | | |
| Related Code | | Related Output/Image | |
|  | |  | |
| Unit Test | | | |
| Description: Added code to allow for 3 dice. | | | |
| Recommendations: | | | |
| Passed? | Yes | **Comments:** |  |

|  |  |  |  |
| --- | --- | --- | --- |
| Software Requirement Any Number of D6 | | | |
| Related Code | | Related Output/Image | |
|  | |  | |
| Unit Test | | | |
| Description: Refactored to accomidate any number of d6, prompts user for how many dice they want to roll and how many rolls they want to do. | | | |
| Recommendations: Refactor to add in other dice numbers as well. | | | |
| Passed? | Yes | **Comments:** | **To add in other dice I would probably want to add in different functions for each die then call the function for every die requested.** |

# Overall Software Test Recommendations & Conclusions

Tests went well with large numbers and multiple dice. I can get an error to throw when putting in a negative number for the number of sides, maybe prevent this error by adding a try/except, to catch any negative numbers being sent into the range of number of sides. Other than that it seems pretty solid, I would like to just refactor the any number of dice to handle any number of sides as well.