Goals & Objectives

The goal of this program is to accept inputs from a user in the form of two integers, one for an integer and one for a width. The program will use the width to pad the integer number provided out the total number of digits the user specified. The program will output the correctly formatted number. For example, if a user inputs the integer 45, and a width of 6, the program will return a value of 000045.

Functional Requirements

1. Prompt user input for an integer
2. Prompt user input for width
3. Pass integer and width to method
4. Use a FOR loop to pad integer with zeros out to width.
5. Output formatted number.

Pseudocode

Import Scanner Utility

Function Main {

Declare input

Output “Enter an integer”

End

Flowchart

A screenshot of a diagram

Description automatically generated

Test Plan

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Test Case** | **Input/Output** | **Expected Result** | **Actual Result** | **Outcome (Pass/Fail)** |
| 1a | User prompted for an integer. | A message prompting the user for an integer number with an exit number. | “Enter an integer, the input ends if it is 0 “ | Pass |
| 2a | Count number of positive and negative integers while input is not 0 | While number is not 0, add positives to positive count, and add negative to negative count | While (number != 0) {  If (number > 0) {} else if (number < 0) {} } | Pass |
| 3a | Add input to total | Total + number | Total += number | Pass |
| 4a | Check number of integers entered | Add numberOfPositives and numberOfNegatives, check if 0. | If (numberOfPositives + numberOfNegatives) {} else {} | Pass |
| 5a | Calculate average of numbers entered | Multiplies 1.0 \* total and divides by the number of positives and negatives entered | Average = 1.0 \* total / (numberOfPositive + numberOfNegatives); | Pass |
| 6a | Output positive count, negative count, total, and average. | Multiple messages output with the numberOfPositives, numberOfNegatives, total, and average | “The number of positives is:”, “The number of negatives is:”, “The total is: “, “The average is:” | Pass |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Test Case** | **Input/Output** | **Expected Result** | **Actual Result** | **Outcome (Pass/Fail)** |
| 1 | (1a) 3 5 -1 3 -6 9 0 | 4, 2, 13, 2.167 | 4, 2, 13.0, 2.167 | Pass |
| 2 | (1a) -2 4 -7 8 8 0 | 3, 2, 11, 2.2 | 3, 2, 11.0, 2.2 | Pass |
| 3 | (1a) 5 3 4 5 -1 0 | 4, 1, 16, 3.2 | 4, 1, 16.0, 3.2 | Pass |
| 4 | (1a) -1 -1 -2 -4 1 0 | 1, 4, -7, -1.4 | 1, 4, -7, -1.4 | Pass |

A screenshot of a computer program

Description automatically generated