

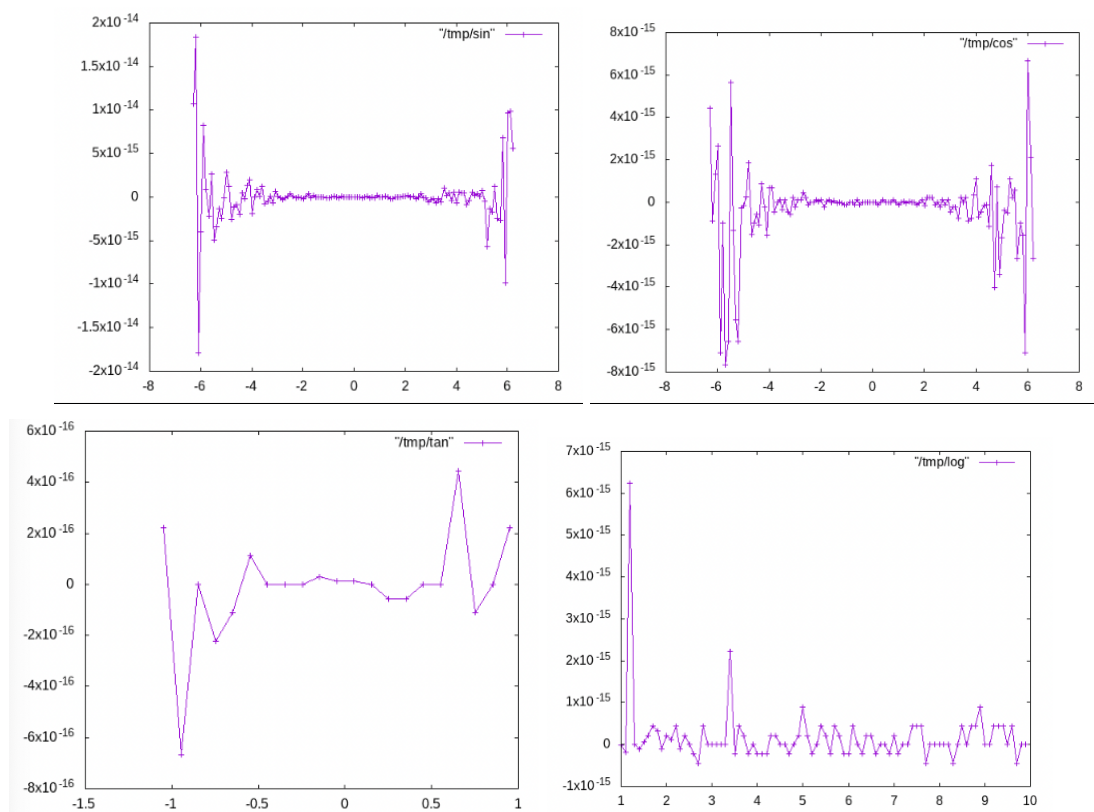
Assignment 2 Writeup - A Small Numerical Library

Description:

This program implements functions that have been written for arcsin, arccos, arctan, and log and creates a small numerical library with these functions. Then, employing a test-harness, specific functions will be called to output with command-line options.

Graphs:

The following graphs display the differences between the math.h function and my personal math functions.



Analysis:

For the arcsin and arccos functions, you can see that the difference between my functions and the math.h functions get significantly higher as you move to either end of the range (1 and -1). There are a multitude of reasons as to why this occurs, but one explanation could be the way in which these values are rounded. The transference of a value from one function to another along with the rounding can cause even the most minuscule differences to be amplified, resulting in high discrepancies around the edges of the

function values. You can also see that the arcTan and Log functions also display inconsistencies, which could also be a result of the above-mentioned reason: rounding of numbers.