Writeup

Generally, the approximate result is really accurate when it is near 0. However, when it gets further, the difference between my approximate value and the math.h value start to get greater. This due to the fact that we are centering our approximation at 0. To reduce the difference between two values, I believe adding more term will help.

However, my Exp() is really close to the math.h value. I believe it's because we use epsilon to end our loop. That mean we keep adding more terms to our approximation equation until the addition term is negligible.

While running the functional test, I noticed a problem which is our calculated value and math.h values are presented in 8 decimal digits. However, the difference between them is 10 decimal digits. This led to a rounding problem and failed the functional test initially. The problem is that the different between two numbers is so small, so the difference is 0.0000000000. However, since we need to round up the numbers to 8 digits, so it increase the difference between the numbers. Since the difference and values don't agree in the output. It failed the test. Eventually, I rounded the values to 8 digits before calculating the difference so it will show the difference between the displayed value between two numbers and that passed the test.