

Math 128a, Chorin, Spring 2013, computer homework 1

1. Find numerically the relative error in the evaluation of the Taylor series $\exp(x) = 1 + x + (1/2!)x^2 + \dots$ for $x = -10$ on machines with word lengths of 4, 5, 6 digits in base 10 (not counting the sign and the exponent). You have to find a way to mimic this arithmetic on whatever computer you are using. Do not keep adding terms once they are zero.