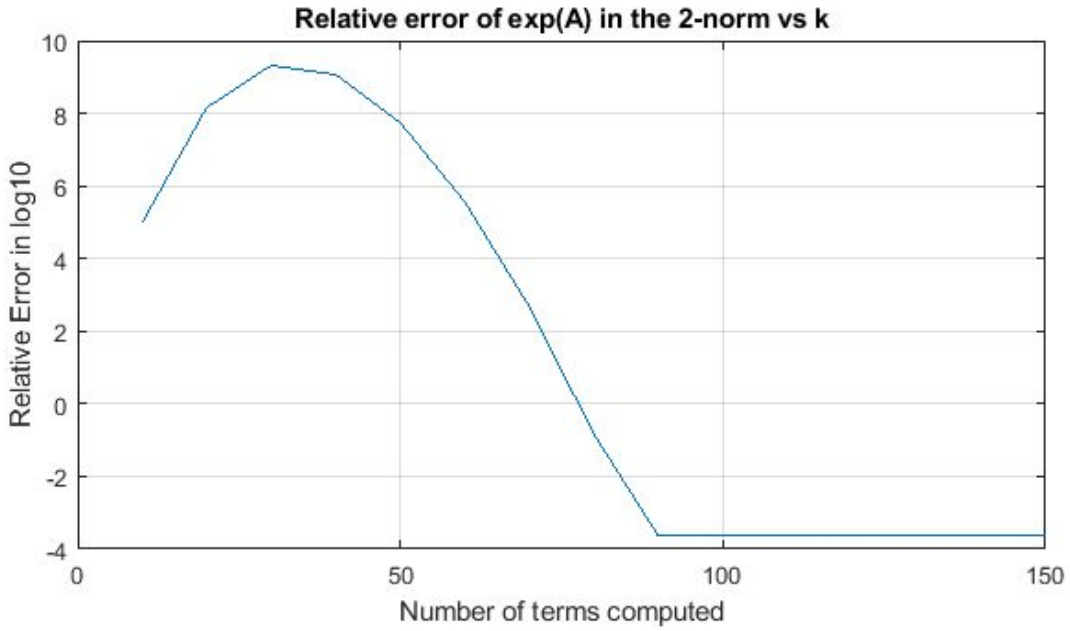

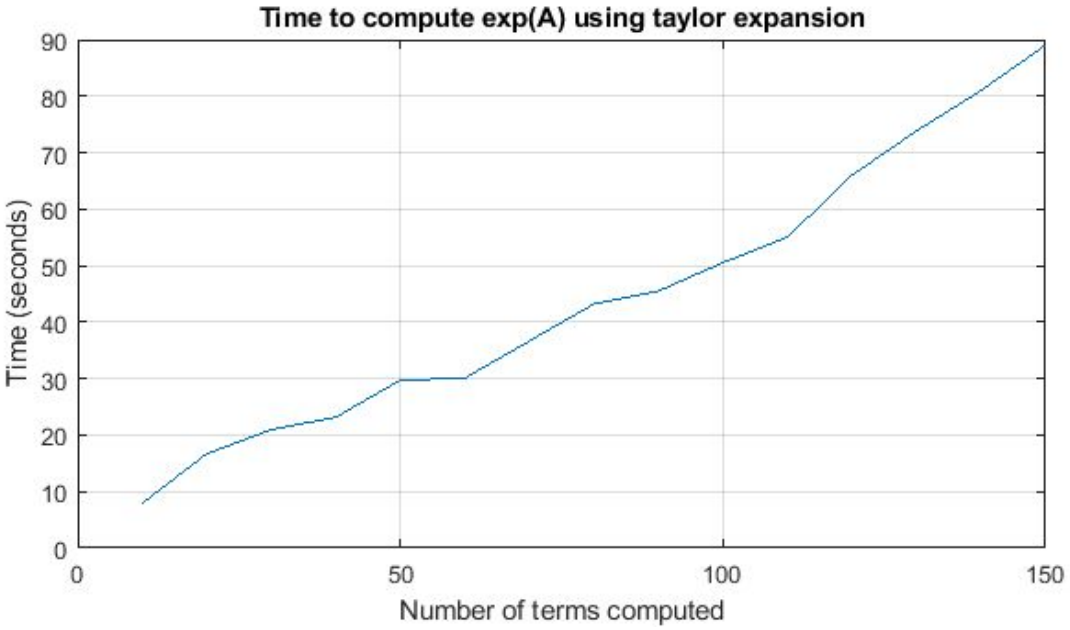

The number of flops in my algorithm is 2n^3 + n^2 for each term. (n^2)(2n-1) multiplications and additions to multiply the last term by A, n^2 divisions to divide by k, and n^2 additions to add the new term to the previous sum of terms. For n=1000, 2,001,000,000 flops per term are computed. Dividing the time to compute each exp(A) by their respective k terms, then taking the mean, the time to compute exp(A) is approximated at k*0.5910 seconds (at 3.3855e+09 flops/second).

Round off error accumulates with the huge number of flops in multiplying 1000x1000 Matrices. It also occurs when dividing by a large factorial, causing an element to become less than machine epsilon.

Using the slope at the steepest linear piece of the relative error in 2-norm plot, k=60 to k=80, gives log10(Ɛ) = -0.3198k + 25.06. The error bound is max(Ɛ<=10^(25.06)*(10^(-0.3198))^k, Ɛ=10^-3.645).