ME 542

Assignment -2

- Write a code to evaluate sine(x) using Taylor's series. Consider different number of terms at a time and find out the relative error. You can plot the variation in relative error with number of terms used (at least 6 terms).
- Implement the above problem following Horner's algorithm and see the difference in number of arithmetic operations between both the cases. The algorithm or method can be found in numerical analysis book or internet.
- Write a code to generate a 10×10 random matrix and find out its trace.
- Write a code to compute matrix-vector multiplication of any given size.