Numerical Algorithms – Complexity W4241

PP3

- Verify that Strassen's algorithm computes the product of 2 by 2 matrices.

PP4

- Verify that Strassen's algorithm does not require that the elements commute under multiplication.

C6 (20 points)

- Program Strassen's algorithm for $n = 2^s$.

  Input: n, A, B
  Output: $C = AB$

  Also, program the classical algorithm.

- Run on matrices of order 2, 4 and 8 (I suggest for the matrix of order 8, you specify the input matrices symbolically).

- For each of the three cases above, compute and print $C_{Classical} - C_{Strassen}$.