Numerical Algorithms – Complexity W4241

C8

- Obtain the Lagrange polynomial $y(x)$ which interpolates the data $(a_i, y_i), i = 1, \ldots, n$. Evaluate it at the point t. As usual, test on at least three examples.

PP5

- Let $f(x) = \sin x$, and let $a = 0$. What is the smallest n so that the Taylor series approximation to $\sin x$ has error at most 5×10^{-4}, $\forall x \in [-1, 1]$.

XC1

- Prove $\sum_{j=1}^{n} l_j(x) = 1$.