

Numerical Analysis
In Class Worksheet - Interpolation - Lagrange

1. Construct $P_2(x)$ using Lagrange's Formula and the points $(0, -1)$, $(1, -1)$, and $(2, 7)$. On paper!

How would you write pseudo code to do this calculation? What issues arise?

Numerical Analysis

In Class Worksheet - Interpolation - Divided Difference

2. Construct $P_2(x)$ using Newtons Divided Difference Formula and the same set of points $(0, -1)$, $(1, -1)$, and $(2, 7)$. On paper!

Do you get the same polynomial as in part 1?

How would you write pseudo code to do this calculation? What issues arise?

Test your polynomial interpolation code and your divided difference code by recreating the values in table 4.1 and 4.2 for interpolating $f(x) = \cos(x)$