Homework 6

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1 Lagrange Approximation :Problem 1

(b) Find the quadratic interpolation polynomial P_2

(c) Find the cubic interpolation polynomial $P_3(x)$ using the nodes $x_0 = -1, x_1 = 0, x_2 = 1$, and $x_3 = 2$.

2 Problem 2

(a) Use quadratic Lagrange interpolation based on the nodes $x_0 = 1, x_1 = 2$, and $x_2 = 2.5$ to approximate $f(1.5)$and $f(1.2)$

(b) Use the cubic Lagrange interpolation based on the nodes $x_0 = 0.5, x_1 = 1, x_2 = 2$, and $x_3 = 2.5$to approximate f(1.5) and $f(1.2)$.