Assignment 7

Unit 9 - Week 7: Interpolation

Problem 1: Newton's Divided Difference Formula

1. Evaluate \( f^{(0)}(x) \) at \( x = 2.1 \) and \( x = 2.3 \).

2. Determine the Newton's interpolating polynomial formula in terms of the evaluation points.

Problem 2: Lagrange Interpolation

1. Write the Lagrange interpolation formula for the given points.

2. Evaluate the Lagrange polynomial at the given points.

Problem 3: Effect of Order of Polynomial in Interpolation

1. Explain how the order of the polynomial affects the accuracy of the interpolation.

Problem 4: Polynomial Fitting

1. Formulate a polynomial fitting problem and solve it using an appropriate method.

Problem 5: Application of Thermoelectric Effect