Q1: Lagrange Interpolation

Approximation of cos(0.750): 0.73317225

True Value: 0.73168887

Q2: Inverse Interpolation

Approximate root of e^(-x) - x = 0: 0.56716106

Absolute Error: 1.48337722e-03

Q3: Hermite Interpolation

Predicted position at t=10s: 370.00000000

Predicted velocity at t=10s (central diff.): 75.00000000