

Blog Entry © Friday, March 27, 2026, by James Pate Williams, Jr. Orthogonal Polynomial Application

The application draws the following orthogonal polynomials:

1. Chebyshev
2. Laguerre
3. Legendre

It also displays the extrema and zeros of a given polynomial. The degrees of the polynomials are 2 to 8.

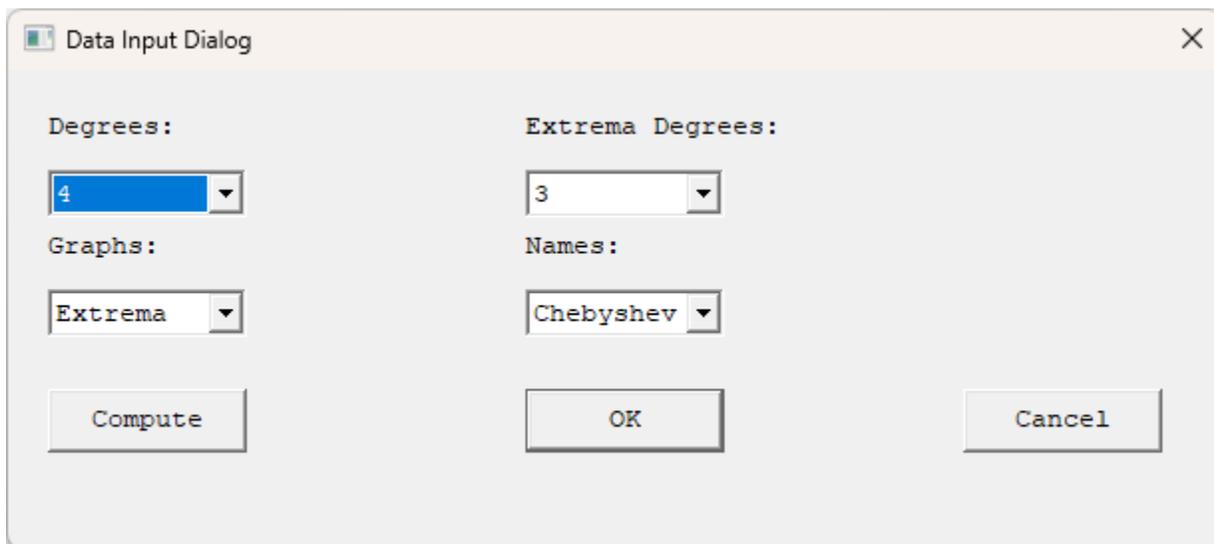


Figure 1 Data Input Dialog

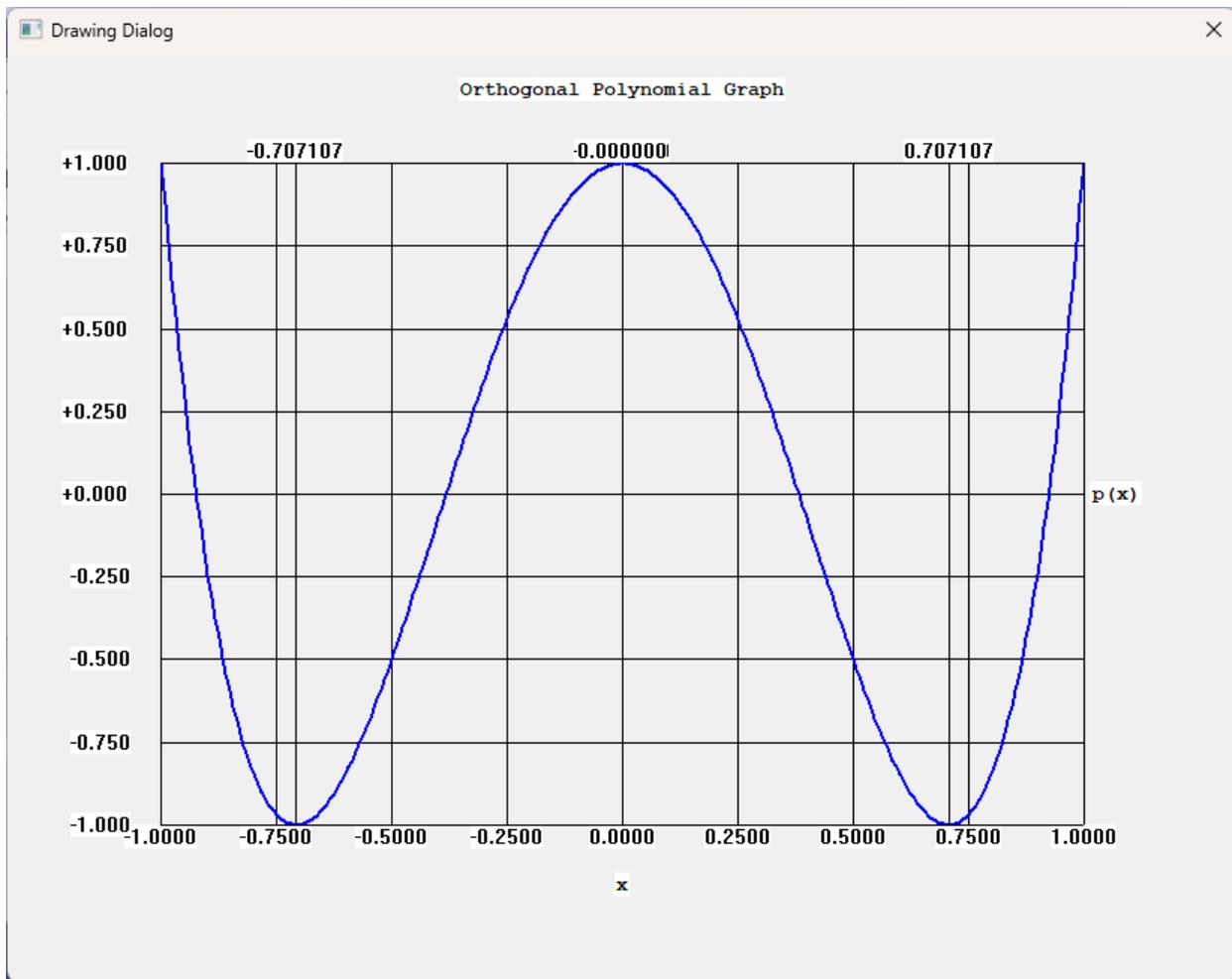


Figure 2 Chebyshev Polynomial Extrema $n = 4$

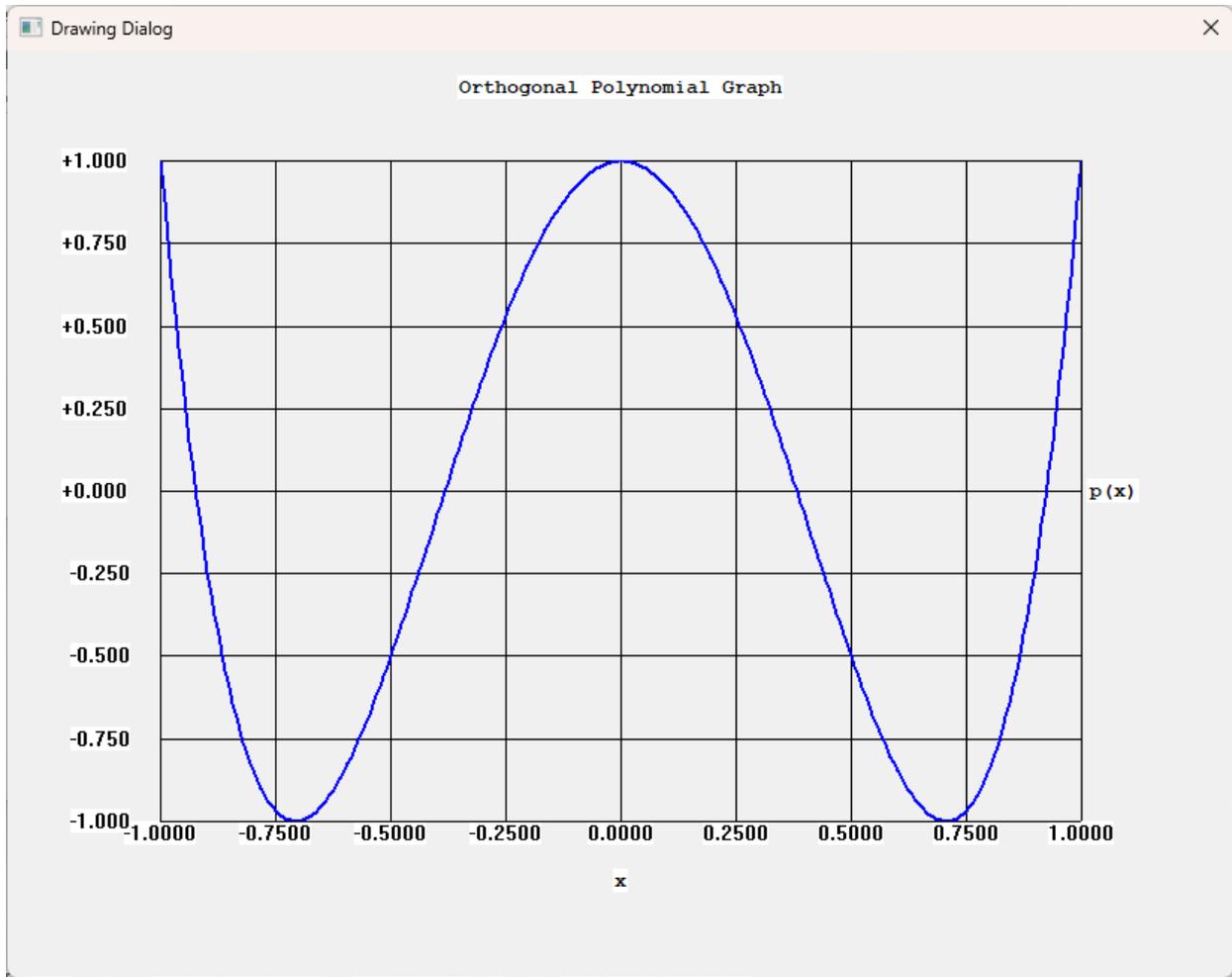


Figure 3 Chebyshev Polynomial $n = 4$

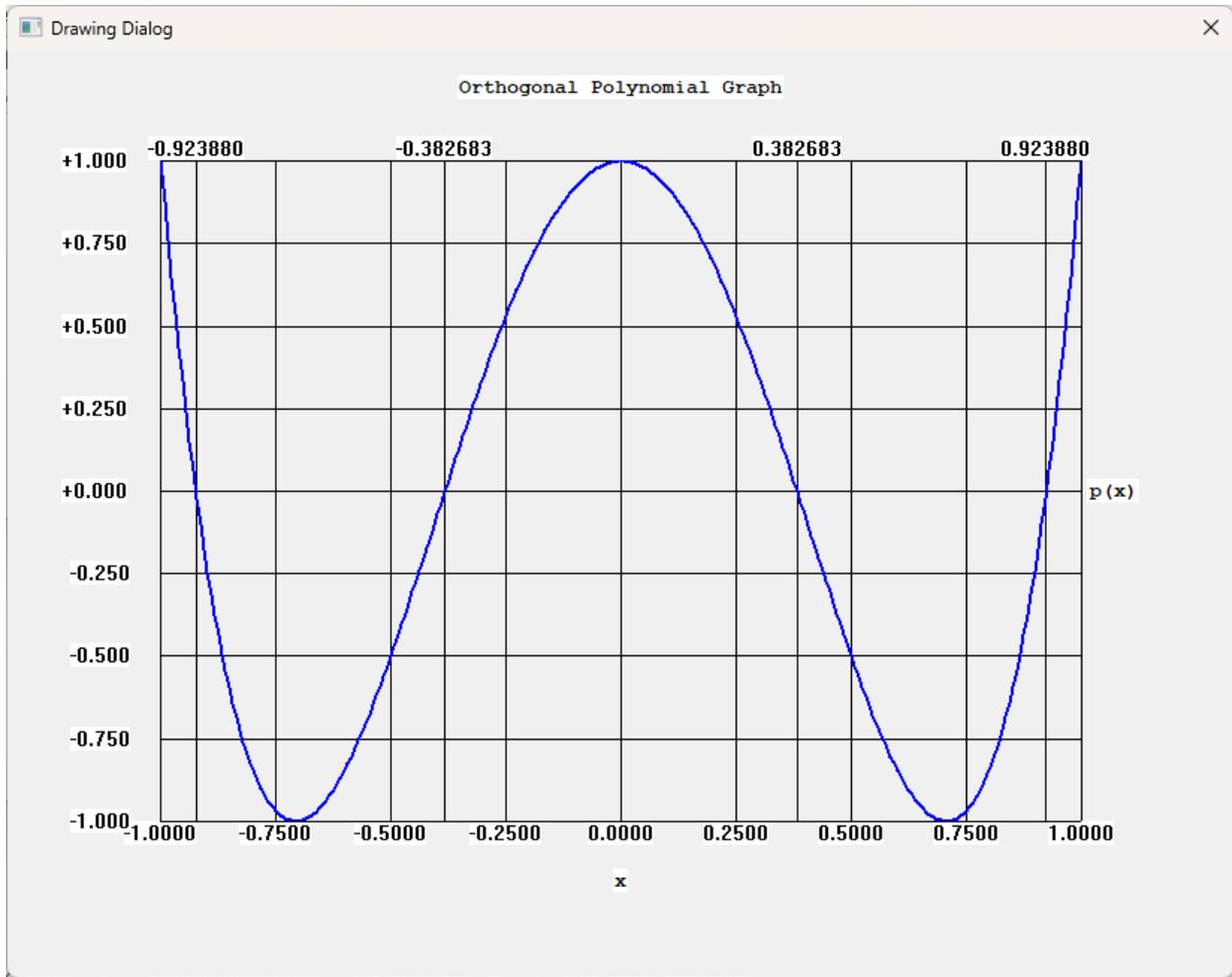


Figure 4 Chebyshev Polynomial Zeros $n = 4$

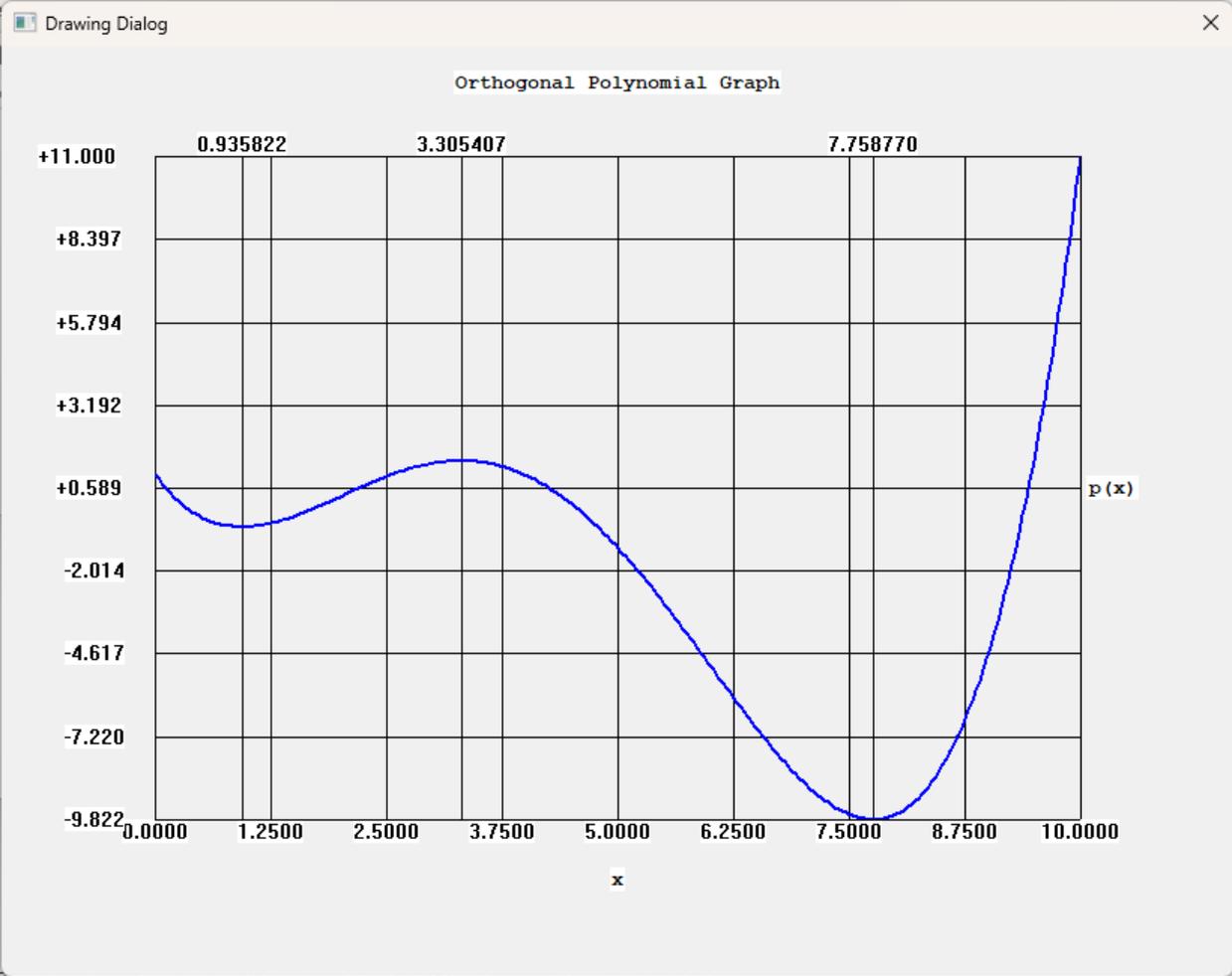


Figure 5 Laguerre Polynomial Extrema $n = 4$

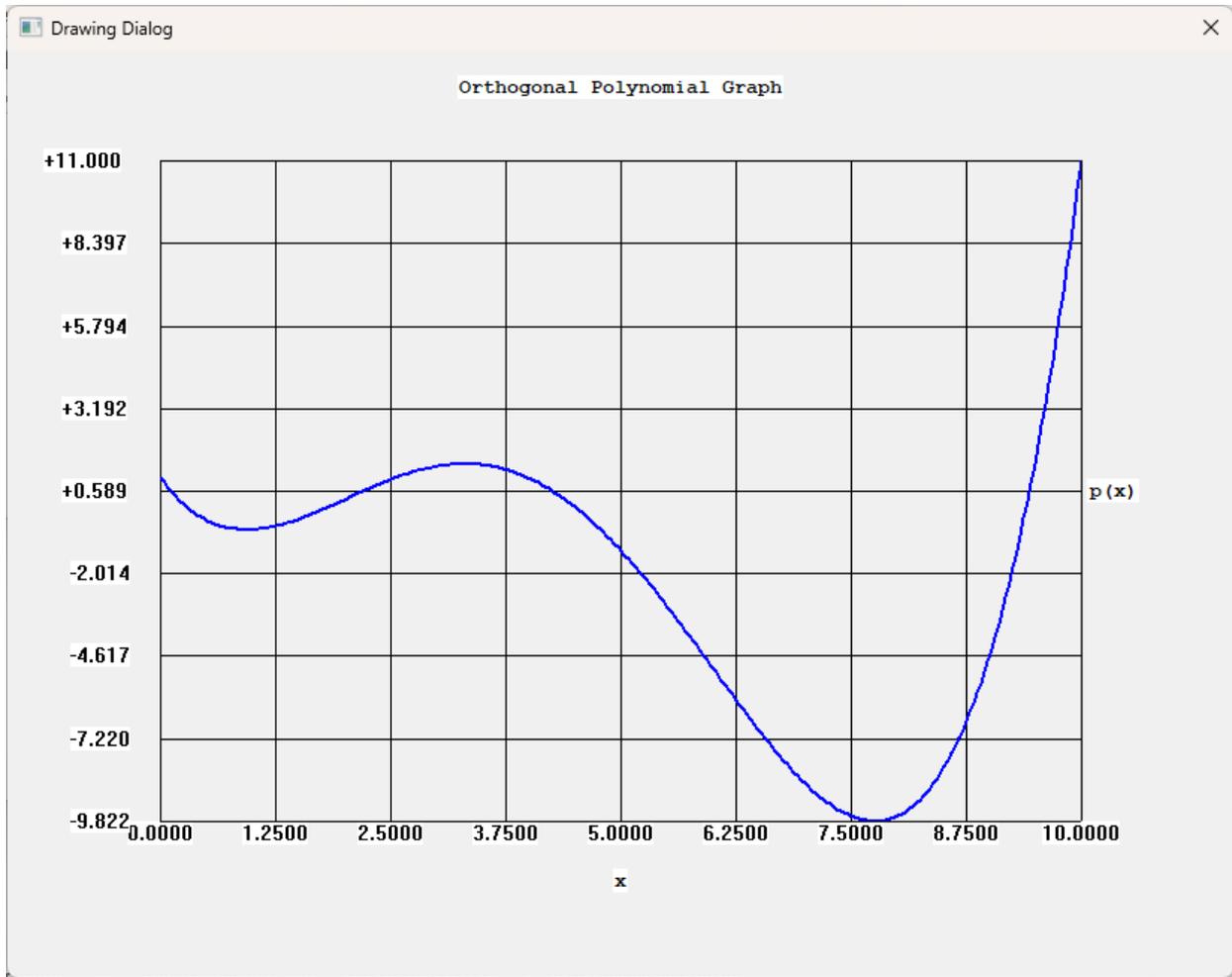


Figure 6 Laguerre Polynomial $n = 4$

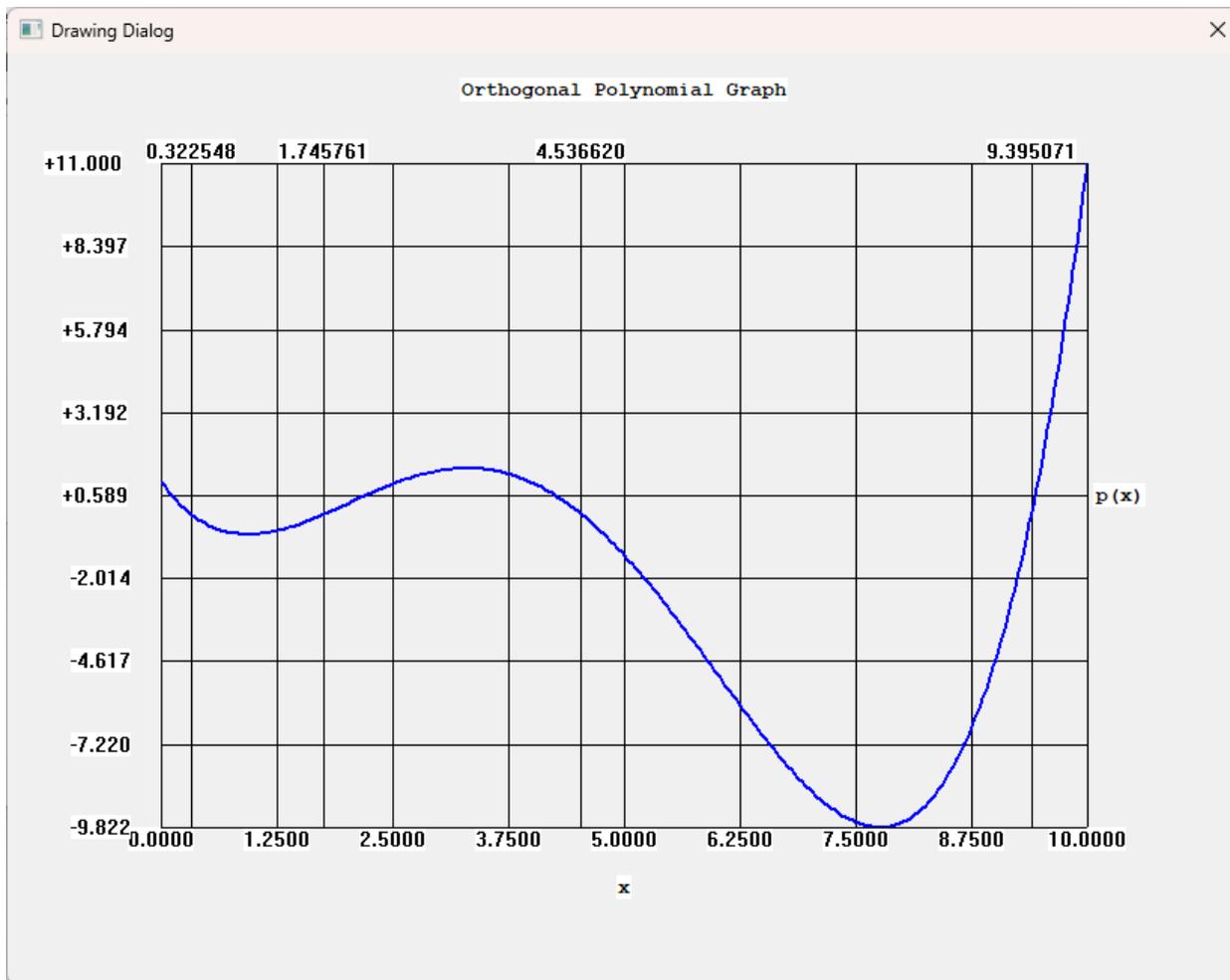


Figure 7 Laguerre Polynomial Zeros $n = 4$

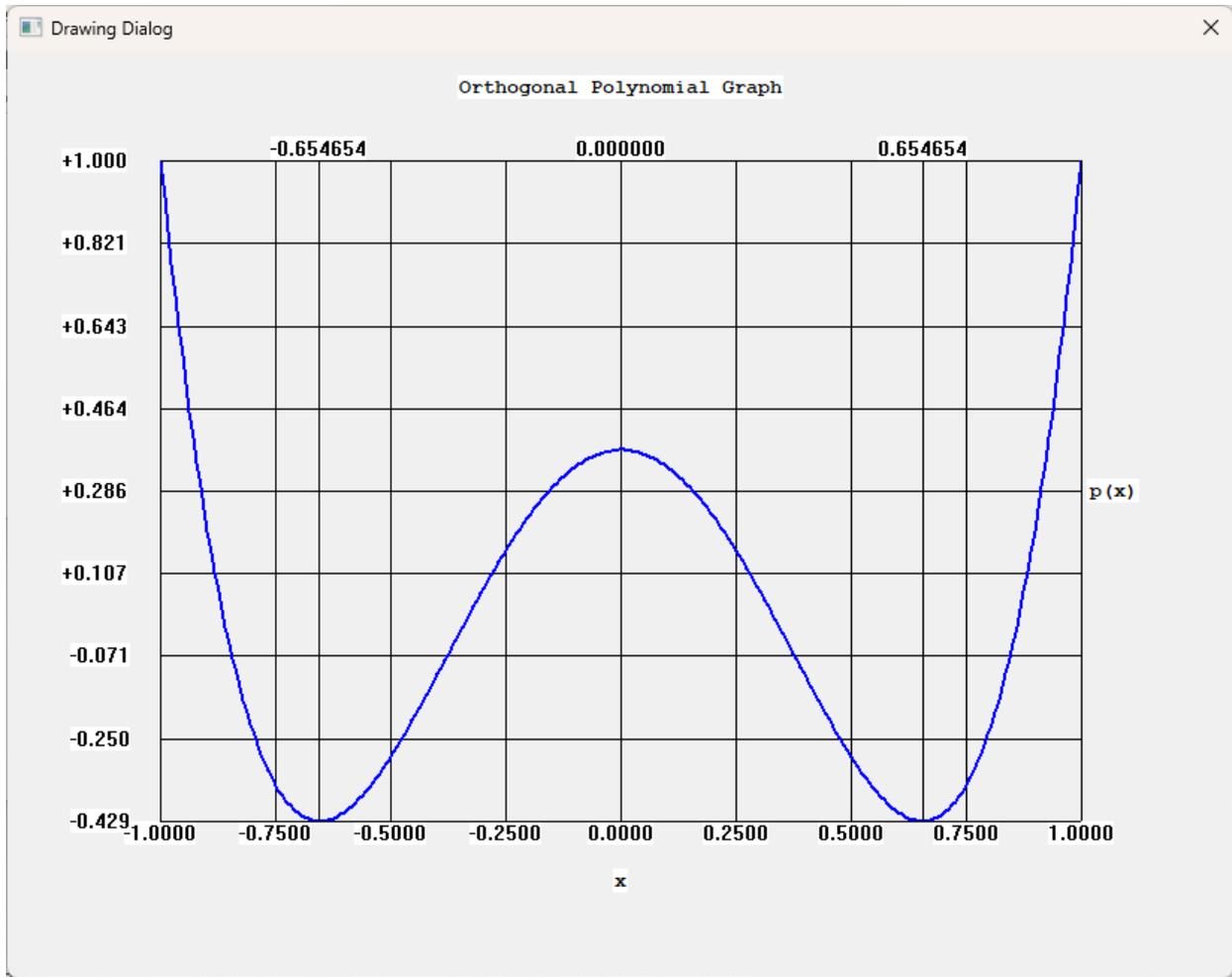


Figure 8 Legendre Polynomial Extrema $n = 4$

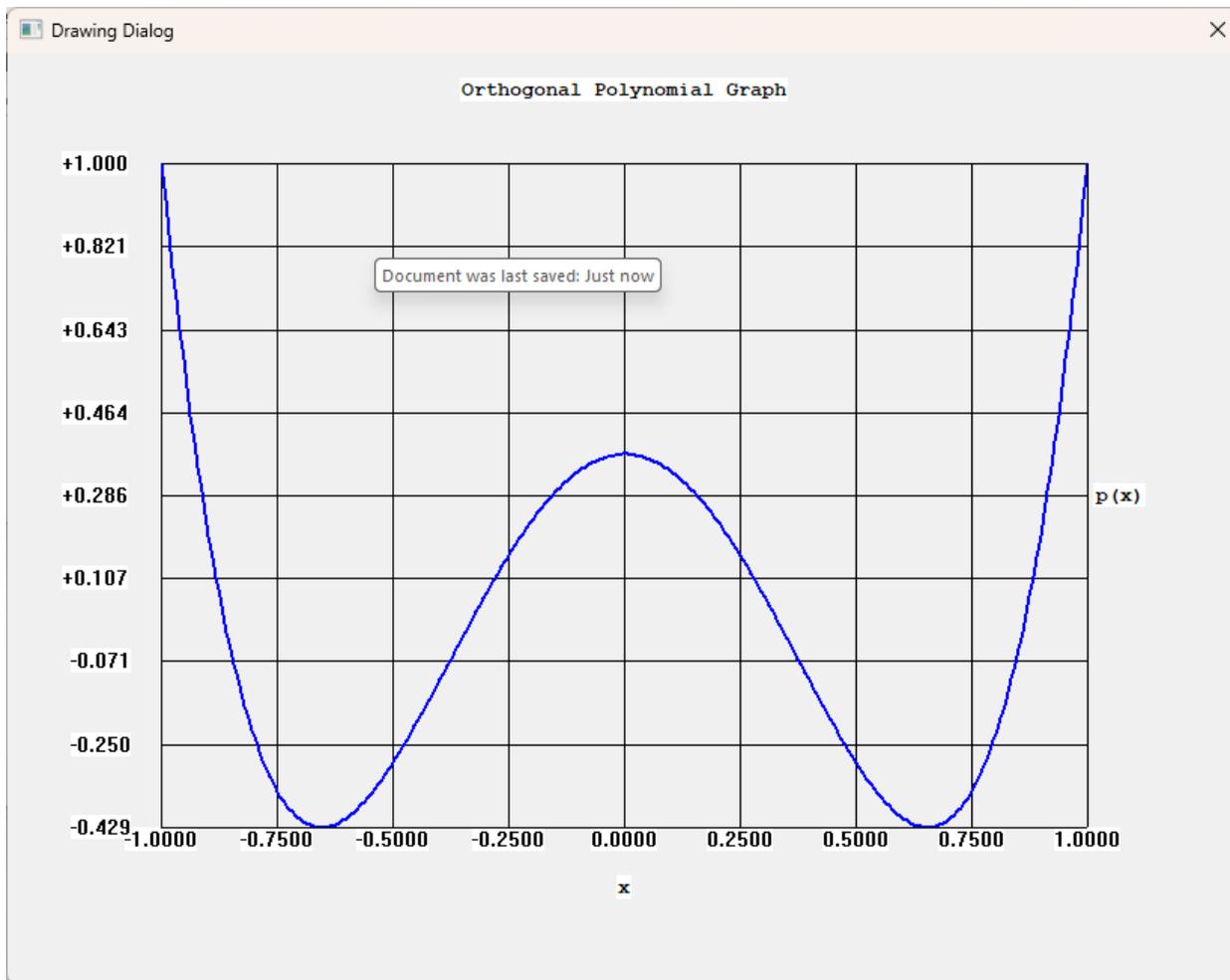


Figure 9 Legendre Polynomial $n = 4$

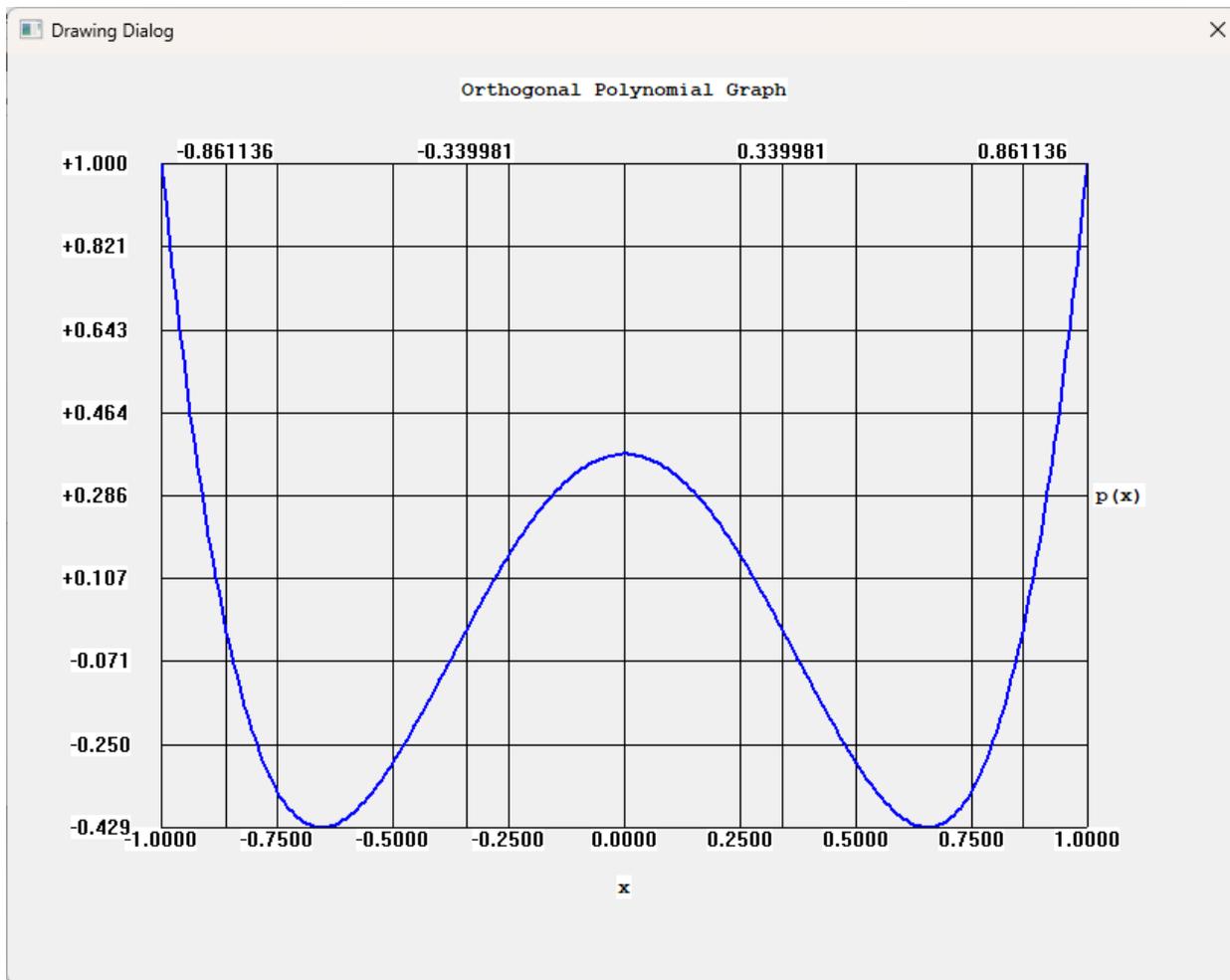


Figure 10 Legendre Polynomial Zeros $n = 4$