MATH 373: CLASS 7

1. Exercise

1) Use Aitken's Δ^2 method to find $\hat{p}_1$, where $p_n = 1/n$, .

2) Apply Steffensen's method to $g(x) = \frac{1}{x}$ to find $p_1^{(0)}$, $p_2^{(0)}$, $p_0^{(1)}$, $p_1^{(1)}$, $p_2^{(1)}$ given $p_0^{(0)} = 2$.

3) Find Lagrange interpolating polynomials of degree two of $f(x) = x^5 - x^2 + 1$ using $x_0 = 0, x_1 = 1, x_2 = 2$.

4) Find the actual error and error bound of the approximation of $f(\frac{1}{2})$ in exercise 3).

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