Simpson's 1/3 algorithm

- This algorithm uses Simson's 1/3 method to integrate functions
- Inputs: x = The vector of equally spaced independent variable
- y = The vector of function values with respect to x
- Outputs: I = The numerical integral calculated

LU Factor

- This algorithm uses LU factorization to solve systems of equations.
- Inputs: A = The matrix
- Outputs: L = Lower triangular Matrix
- U = Upper triangular matrix
- P = Permutation matrix to keep track of the pivoting

False Position

- This algorithm uses the false position method to find roots of functions
- Inputs: Function, lower guess, upper guess, desired error, maximum amount of wanted iterations, and additional parameters
- Outputs: Root, function evaluated at the root, and apprx. error.

Trapezoidal Rule

- This algorithm used the trapezoidal rule for integration
- Inputs: Function, lower bound for integration, upper bound for integration, number of segments, and additional parameters.
- Outputs: Integration estimate