

QUIZ 2

1. Solve this system by Gaussian elimination with partial pivoting:

$$\begin{aligned}x_1 - 2x_2 + 4x_3 &= 6 \\8x_1 - 3x_2 + 2x_3 &= 2 \\-x_1 + 10x_2 + 2x_3 &= 4\end{aligned}$$

- Use only three significant digits of precision. How many row interchanges are needed? (Solution: $[-0.111, 0.0769, 1.56]$)
- What is the LU equivalent of the coefficient matrix?
- Use this LU to solve but with right-hand side;
 $[1, -3, 5]^T$

2. Find the parabola $y=A+Bx+Cx^2$ that passes through the three points $(2,2)$, $(4,-2)$, and $(6,2)$.