Math 321-172 Quiz 5

Name:.....ID#:.....Sec:.....Ser:.....

Q.1: Let $LU\mathbf{x} = b$is given as $A = \begin{bmatrix} 1 & 0 & 0 \\ 2 & 1 & 0 \\ -3 & 2 & 1 \end{bmatrix} \begin{bmatrix} 1 & 2 & -3 \\ 0 & 1 & 2 \\ 0 & 0 & 1 \end{bmatrix} \begin{bmatrix} x \\ y \\ z \end{bmatrix} = \begin{bmatrix} 6 \\ 6 \\ 8 \end{bmatrix}$. Solve the system by letting $U\mathbf{x} = \mathbf{y}$.

Q.2: $A = \begin{bmatrix} 1 & 1 & -1 & 2 \\ -1 & -1 & 1 & 5 \\ 2 & 2 & 3 & 7 \\ 2 & 3 & 4 & 5 \end{bmatrix}$. Write $A = P^t LU$.

Q.3: Use Bisection method to find the root x_3 for $f(x) = x^3 - 7x^2 + 14x - 6$ on the interval $[0, 1]$. Write value of $f(x_3)$.