MATLAB ADDE Assignment

1. Write a MatLab code (one single code having the subcases for two and three variables quadratic form) to execute the following.

   For $x \in \mathbb{R}^3$, let $Q(x) = 3x_1^2 + 2x_2^2 + x_3^2 + 4x_1x_2 + 4x_2x_3$. Write this quadratic form as $x^T A x$. Reduce the quadratic form into a canonical form using change of variables suitably. Display the canonical form and the orthogonal transformation.