Assignment 2

Due:11:59 PM, 9/25/2022

1. Show that non-singular n*n real matrices with matrix multiplication is a group.

2. Given two permutations [0->1, 1->2, 2->0] and [0->1, 1->0, 2->2], their composition is another permutation [0->0, 1->2, 2->1]. Show that permutations over n elements with composition is a group.

3. Show that $p(x)=x^4+x^3+x^2+x+1$ is an irreducible polynomial for $F_2[x]$.