April 29, 2021

18.702 Problem Set 10

due wednesday, May 5.

I've made this pset very short.
There will be one more pset.

1. Chapter 15, Exercise 7.6. *(factoring $x^{16} - x$)*

2. Chapter 15, Exercise M4. *(the irreducible polynomial for $\sqrt{2} + \sqrt{3}$)*

3. Prove that, if an element of $GL_2(\mathbb{Z})$ has finite order, then its order is $1, 2, 3, 4$ or 6. Do this by determining the possible characteristic polynomials that such an element could have.