MATH 350 HOMEWORK: SPRING 2020

All of the homework exercises are taken from the course textbook:

- *Linear Algebra* by Friedberg, Insel and Spence.

Unless otherwise noted, the numbering of the homework exercises is identical in the 4th and 5th editions of the textbook.

Homework 1: 1.2.18, 1.2.19, 1.3.8(a), 1.3.8(f)

Homework 2: 1.3.19, 1.4.3(f), 1.4.5(h), 1.4.15

Homework 3: 1.6.14, 2.1.3, 2.1.4

In Exercises 2.1.3 and 2.1.4, you are only required to find bases of $N(T)$ and $R(T)$.

Homework 4:

- 5th Edition: 2.2.2(d), 2.2.3, 2.2.17
- 4th Edition: 2.2.2(d), 2.2.3, 2.2.16

Hint: In the third exercise, it might be helpful to think about the proof of the Dimension Theorem.

Homework 5. To be submitted online by March 26:

- 2.5.6(c), 2.5.6(d), 3.2.19, 3.2.21, 3.2.22

Homework 6. To be submitted online by March 30:

- Prove that if A, $B \in M_{n \times n}(F)$ and $AB = I_n$, then $BA = I_n$.
- 3.2.5(g), 3.2.5(h), 3.3.7(c), 3.3.7(e)

Homework 7. To be submitted online by April 6:

- 3.4.2(h), 3.4.2(i), 4.2.15, 4.2.18, 4.3.10

Homework 8. To be submitted online by April 27:

- 7.1.2(c), 7.1.2(d), 7.2.4(a)