MAT – 450: Advanced Linear Algebra
EFY 2

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Instructions

Please complete each of the following problems. You should work in groups of two and hand in only one submission per group. Be sure that your arguments are well justified and presented clearly.

Problem 1. Let V be a vector space over a field $\mathbb{F}$, and $S_1 \subseteq S_2 \subseteq V$. Prove the following:

- If S_1 is linearly dependent, then S_2 is linear dependent.

- If S_2 is linearly independent, then S_1 is linearly independent.

Problem 2. Do Problem 31 of Section 1.3 and Problem 35 of Section 1.6 in Friedberg.