

PROBLEM SET 1 (DUE: FEB 6, WED)

1. Do Exercise 1.2.21. in [OS18].
2. Do Exercise 1.2.23. in [OS18]. (You do not need to justify your answer.)
3. Do Exercise 1.3.21. in [OS18]. (You do not need to write down a rigorous proof, but explain how you get such an LU factorization in each case.)
4. Do Exercise 1.3.27. in [OS18]. If it is true, then provide a proof. Otherwise, give a counterexample.

REFERENCES

- [OS18] Olver, P. J. and Shakiban, C., *Applied Linear Algebra*, 2nd ed., Undergraduate Texts in Mathematics, Springer, 2018.