Due Date: 8 Dec
Commutative Algebra: Fall 2023
Exercise sheet 11

Problem 1. Let R be a discrete valuation ring. Describe $\mathrm{Spec}(R)$ (as a topological space).

Problem 2. Show that there are no non-trivial discrete valuations on an algebraically closed field k.

Problem 3. Let R be a valuation ring, $\mathfrak{p}$ a prime in R. Show that $R_{\mathfrak{p}}$ and $R/\mathfrak{p}$ are both valuation rings.