Exercises

9.101 [ovs] Let (X, d) be a metric space and let $D \subseteq X$, show that these clauses are equivalent:

- D is not totally bounded;

- there exists $\varepsilon > 0$ and there is a sequence $(x_n)_n \subseteq D$ for which
$$\forall n, m \in \mathbb{N}, \ d(x_n, x_m) \geq \varepsilon \ .$$