Exercises

E10.h.3 [OTH]Prerequisites:[OVP].Let (X, d) be a compact metric space, and let $f : X \to X$ be such that

$$\forall x, y \in X, x \neq y \Rightarrow d(f(x), f(y)) < d(x, y) \quad .$$

Show that f has a single fixed point.

This result is sometimes called *Edelstein's Theorem*.

Solution 1. *[27C]*