Exercises

E9.51 [OQF] Difficulty:**. Find an example of a metric space where for every $x \in X, r > 0$, $B_r(x)$ is a closed set, but the associated topology is not discrete. [a]

Solution 1. [OQG]

We note that such a space must be *totally disconnected* as shown in [OKO].

[[OQH]]

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[a] See [2F6] for the definition.