Exercises

E9.4 [ON8] If $(x_n) \subset X$ is a Cauchy sequence and there exists x and a subsequence n_m such that $\lim_{m \to \infty} x_{n_m} = x$ then $\lim_{n \to \infty} x_n = x$.

Solution 1. [ON9]

This "lemma" is used in some important proofs, e.g. to show that a compact metric space is also complete.