Lecture 14 Summary

wed 20/08/14

Vocabulary

(No new vocabulary defined)

Examples

(None)

Homework

- $\mathbb{Q}$ is not complete. ($\mathbb{Q} \hookrightarrow \mathbb{R}$ and $\bar{\mathbb{Q}} = \mathbb{R}$ with a function $\varphi: X \to \hat{X}$.) $\mathbb{R}$ is complete.

- Let (X, d) be a metric space. If $(\hat{X}_1, \hat{d}_1)$ with $\varphi_1 : X \to \hat{X}_1$ and $(\hat{X}_2, \hat{d}_2)$ with $\varphi_2 : X \to \hat{X}_2$ are completions of (X, d) then there exists $f: \hat{X}_1 \to \hat{X}_2$ such that
  (a) f is an isometry
  (b) f is a bijection
  (c) $f \circ \varphi_1 = \varphi_2$