Notes on Functional Analysis

`version 0.1.`

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Preface

This is a note for the seminar on functional analysis held during winter, 2023. The material is taught by Professor Sang-Gyun Yoon at Seoul National University. As the materials discussed in the seminar provide an indispensable tools in the study of mathematics, I am writing the note that I can refer to later.

As a matter of personal interest, I am very interested in the topics that are discussed in the seminar. For this reason, I am trying to grasp every detail of the contents and glue the knowledge in a decent manner. In order to reduce the cognitive loads that are required to capture the details of non-contiguous contents visited in the seminar, organizing my thoughts and the contents that I have been studying in a LaTeX file must be valuable. This is the primary motive for me to write this note.

If there are any typos or mistakes in this note, please feel free to let me know.

Banach space

1.1 February 18, 2021

We'll continue our discussion of Banach spaces today. If V is a normed space, we can check that whether V is Banach by taking a Cauchy sequence is seeing whether it converges in V. But there's an alternate way of thinking about this:

Theorem 1.1.1. *Consider*

Lemma 1.1.2. *Hello*

Exercise 1.1. *In this ecercise,*

1.2 H

Theorem 1.2.1.