Notes for Ve203 RC2

**Hand out CCP03!!!!**

Mention the concept of **Equivalence class & relations**，compare with modules arithmetic

interpret the meaning of is defined as a partition due to “~”

Mention Equinumerosity: bijection

(Jump to Review 3)

Same Cardinality: finite + infinite

Example : .

Trick: reflexive + symmetric + transitive equivalence relation

How to prove/disprove an equinumerosity? Find the bijection / lead to contradiction

How is constructed respectively? Review slides, known is enough

Exercise :

Cantor’s Theorem

Prove: mention concept of **countable set , why R is not countable**

**Prove:**

Prove:

Story: Hilbert Big Hotel (Guests: 1,40,)

Exercise : Thinking: two ways

Exercise: Review 2 ex4

Explanation for Slides:

Cantor-Schröder-Bernstein Theorem: Picture

Prove is not a set unless is 0

Exercise : Sets of all the sets not exist {A}

Short Break(5 min )

Partial Order:

Review all the relations

Concept Checking List (mention maybe deleted)

Fill in CCP03: ex2-ex6. Especially **ex4**

Exercise : Review 3 , ex1 ex2 ex3

Leftovers:

Finite Sets

Longest Increasing Subsequence

Pigeonhole Principle Exercise: