## LECTURE 3 (MAY 17)

# Fields, Induction, Binomial Theorem: $TEXTBOOK\ pg\ 20\ -$

Author

Tom Jeong

## Contents

1	Remarks on supremums and bounded above		
	1.1	Upper Bound	3
	1.2	Supremum	3

### 1 Remarks on supremums and bounded above

Supremums and Upper bounds are not the same and it's been quite confusing so I'll make a note here:

Let P be a partially ordered set and  $A\subset P$ 

#### 1.1 Upper Bound

 $x \in P$  is an upper bound of A if  $a \le x$  for all  $a \in A$ .

#### 1.2 Supremum

We say  $s \in P$  is the supremum of A if it satisfies two things:

- 1. s is an upper bound of A
- 2. s is the smallest upper bound of A