

## RATIONAL ORDER

## Why

We want to order the rationals.

## **Definition**

Consider  $[(a,b)], [(b,c)] \in \mathbf{Q}$  with  $0_{\mathbf{Z}} < b, d$  If ad < bc, then we say that [(a,b)] is less than [(b,c)]. If [(a,b)] is less than [(b,c)] or equal, then we say that [(a,b)] is less than or equal to [(b,c)].

## Notation

If  $x, y \in \mathbf{Q}$  and x is less than y, then we write x < y. If x is less than or equal to y, we write  $x \le y$ .

<sup>&</sup>lt;sup>1</sup>One needs to show that this is well-defined. The account will appear in future editions.

