

Practice Problems for Midterm
Not to be handed in

1. For every theorem T in this course which had
for all COL: $BLAH \rightarrow [2]$...
consider the following
 - (a) Is the theorem still true if I replace 2 by 3? If so then prove it. If not then give a counterexample. If not then see if some modification works.
 - (b) Is the theorem still true if I replace 2 by ω . If so then prove it. If not then give a counterexample. If not then see if some modification works.

2. Let $(X_1, \preceq_1), \dots, (X_n, \preceq_n)$ are wqo

Consider the order

$$(X_1 \times \dots \times X_n, \preceq)$$

where

$$(x_1, \dots, x_n) \preceq (y_1, \dots, y_n) \text{ iff } (\forall i)[x_i \preceq_i y_i].$$

Show that this is a wqo.

3. Find c such that the following is true.

For all COL: $(\omega + \mathbb{Z}) \rightarrow [10^{100}]$ there exists a c -homog set that is order equivalent to $\omega + \mathbb{Z}$.

(Also try to find a c that is optimal.)