

## CSE 390z: Mathematics for Computation Workshop

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### QuickCheck: Relations (due Monday, December 4)

Please submit a response to the following questions on Gradescope. We do not grade on accuracy, so please submit your best attempt. You may either typeset your responses or hand-write them. Note that hand-written solutions must be legible to be graded.

We have created [this template](#) if you choose to typeset with Latex. [This guide](#) has specific information about scanning and uploading pdf files to Gradescope.

#### 0. Relations

- (a) Consider the relation  $R \subseteq \mathbb{Z} \times \mathbb{Z}$  defined by  $(a, b) \in R$  iff  $a < b$ . Determine if  $R$  is reflexive, symmetric, antisymmetric, and/or transitive. If the relation has a property, explain why. If not, state a counterexample.
- (b) Given an example of a relation that is neither symmetric nor antisymmetric.

#### 1. Video Solution

Watch [this](#) solution video **after** making an initial attempt. Then, answer the following questions.

- (a) What is one thing you took away from the video solution?
- (b) What topic from the quick check or lecture would you most like to review in workshop?