

Wednesday, April 25

Name \_\_\_\_\_

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6.s081 Spring 2018

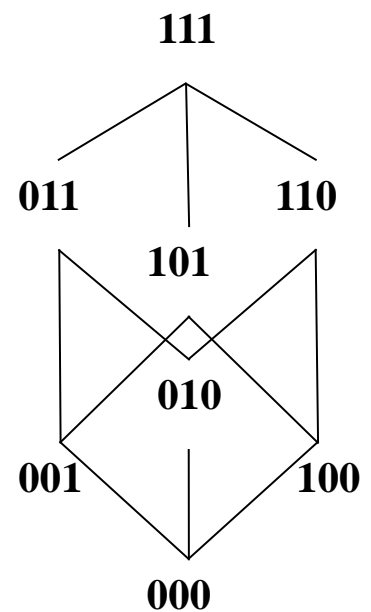
Miniquiz #27

5 Minutes

Let set  $P = \{000, 001, 010, 011, 100, 101, 110, 111\}$  and a partial order  $x \leq y$  is defined as:

$x \leq y$  if  $(x \& y) = x$  where  $\&$  is a bitwise and

The figure on the right shows the Hasse diagram of the lattice  $(P, \leq)$



1. What are the top and bottom elements of the lattice?

2. Is this a complete lattice?

3. What is the least upper bound of the set  $\{000, 100, 001\}$ ?

4. What elements does 011 cover?