Recitation 9

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- Given the Poset: $(\{\{1\},\{2\},\{4\},\{1,2\},\{1,4\},\{2,4\},\{3,4\},\{1,3,4\},\{2,3,4\}\},\subseteq)$
  1. Find the maximal elements:$\{1,2\},\{1,3,4\},\{2,3,4\}$ (because these are not subsets of any other sets in the relation right?)
  2. Find the minimal elements: $\{1\},\{2\},\{4\}$ (again, there are no subsets of these sets in the relation)
  3. Is there a maximum (i.e., greatest) element?: No. It does not exist.
  4. Is there a minimum (i.e., least) element?: No. It does not exist.
  5. Find the set of all upper bounds of $\{\{2\},\{4\}\}$: $\{\{2,4\},\{2,3,4\}\}$
  6. Find the least upper bound (lub) of $\{\{2\},\{4\}\}$: the element $\{2,4\}$
  7. Find the set of all lower bounds of $\{\{1,3,4\},\{2,3,4\}$: $\{\{3,4\},\{4\}\}$
  8. Find the greatest lower bound (glb) of $\{\{1,3,4\},\{2,3,4\}\}$: the element {3,4}