Serdil Anıl Unlu /18010420472

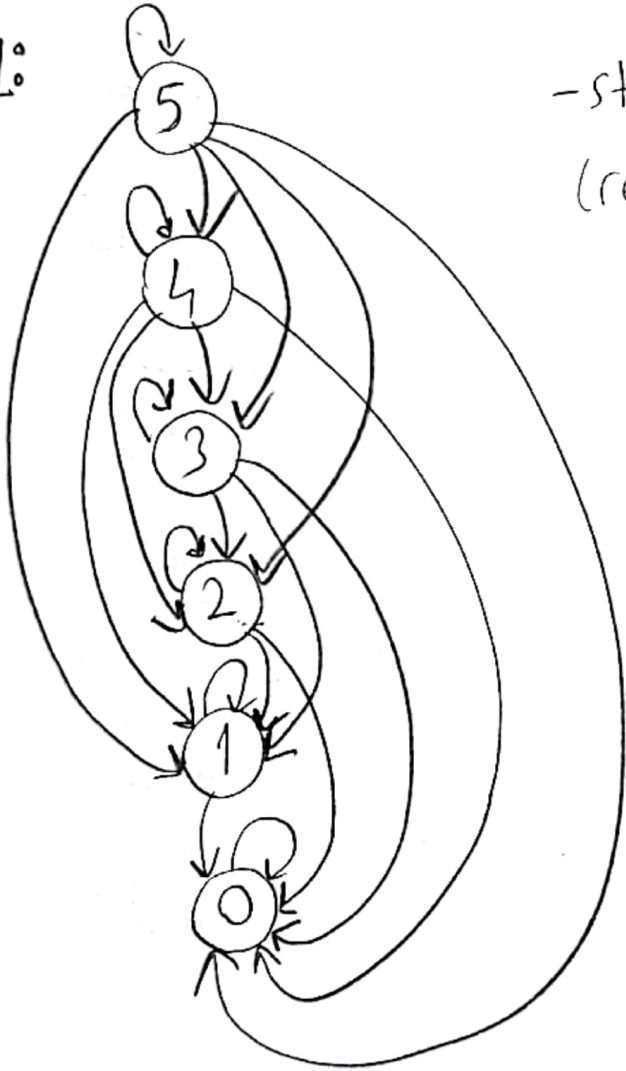1) $\{0,1,2,3,4,5\} \geqslant)$
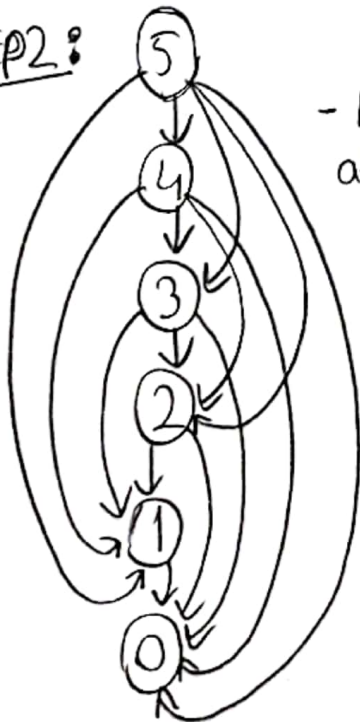
$R = \{(0,0),(1,1),(2,2),(3,3),(4,4),(5,5),(1,0),(2,0),(2,1),(3,0),(3,1),(3,2)$
$,(4,0),(4,1),(4,2),(4,3),(5,0),(5,1),(5,2),(5,3),(5,4)\}$
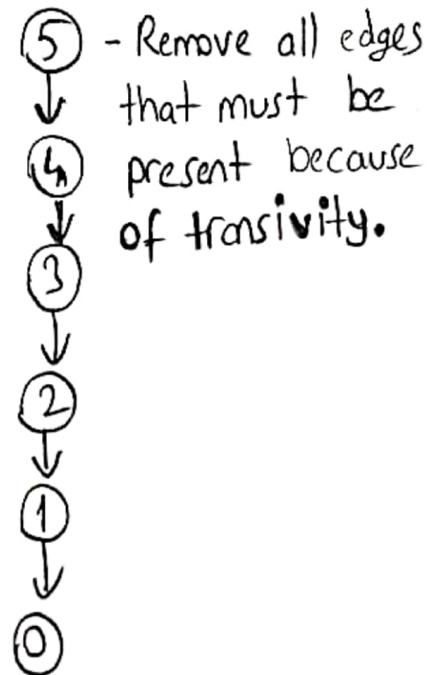
STEP1:

- start with diagraph of partial order.
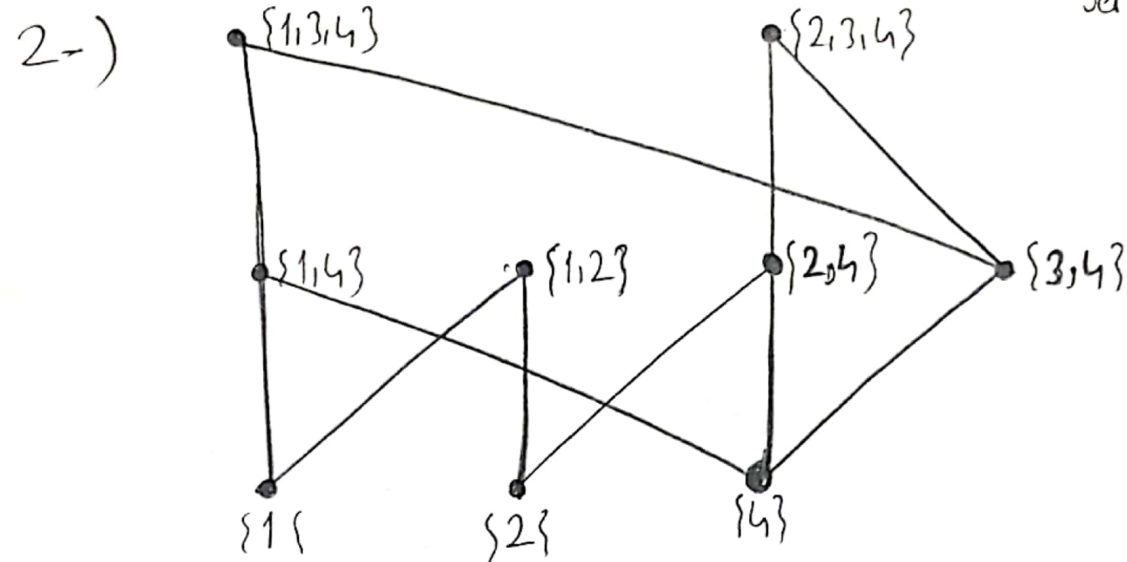(reflexivity, symmetric, transivity)

STEP2:

- Remove the loop at each vertex.

STEP3:

- Remove all edges that must be present because of transivity.

2-)

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Hasse diagram with nodes:
$\{1,3,4\}$, $\{2,3,4\}$
$\{1,4\}$, $\{1,2\}$, $\{2,4\}$, $\{3,4\}$
$\{1\}$, $\{2\}$, $\{4\}$

a) $\{1,3,4\}$, $\{2,3,4\}$, $\{1,2\}$

b) $\{1\}, \{2\}, \{4\}$

c) No, there is not greatest element, because we cannot compare $\{1,3,4\}$ and $\{2,3,4\}$

d) $\{2,4\}, \{2,3,4\}$

e) $\{2,4\}$

f) $\{3,4\}$, $\{4\}$

h) $\{3,4\}$