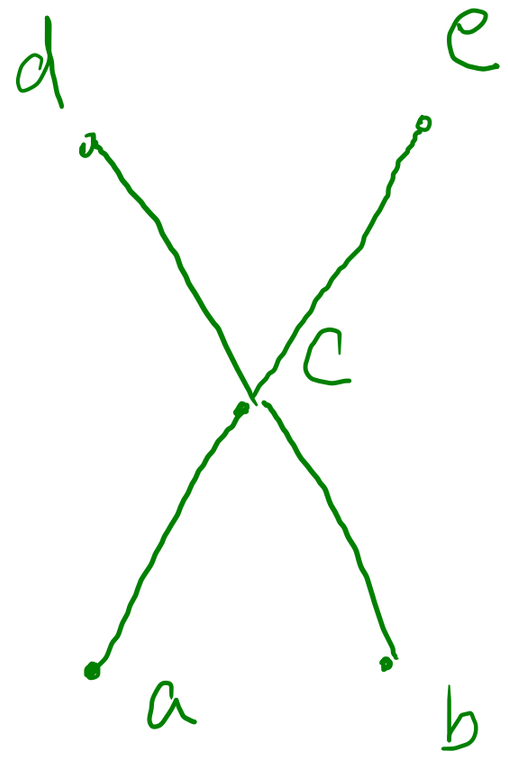
Draw the Hesse Diagram for the relation (partial order)

a b c d e

$$M_R = \begin{array}{c} \\ a \\ b \\ c \\ d \\ e \end{array} \begin{bmatrix} 1 & 0 & 1 & 1 & 1 \\ 0 & 1 & 1 & 1 & 1 \\ 0 & 0 & 1 & 1 & 1 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{bmatrix}$$



and find

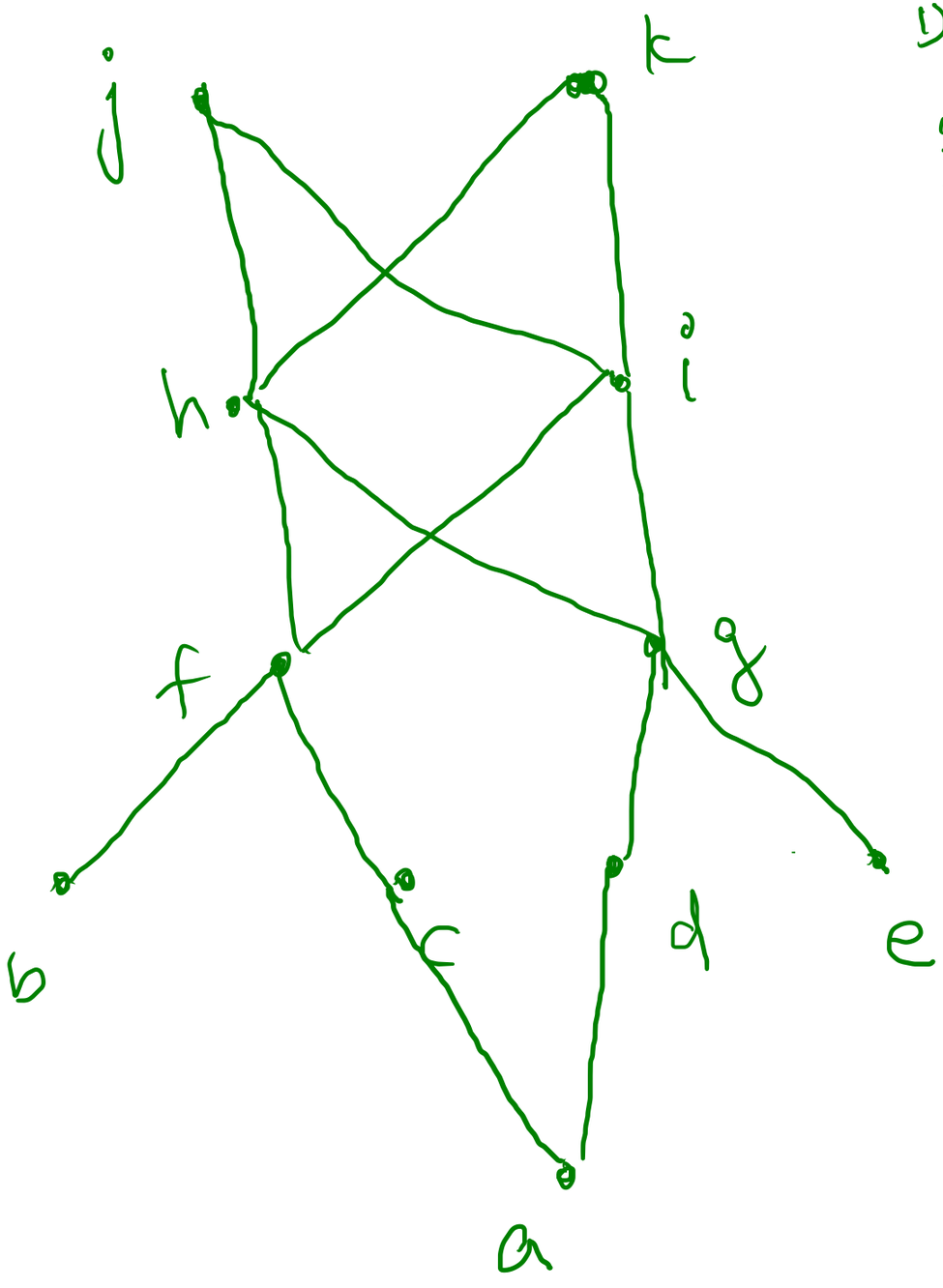
(i) maximal & minimal element $= \{d, e\}$ (maximal) minimal elts $= \{a, b\}$

(ii) upper bounds and lower bounds of

c & e.

upper bounds of c & e $= \{\}$

lower bound of c and e $= \{a, b\}$



1) what is/are maximal & minimal elts

2) what is the covers of i?

3) what is lub of c and d?

4) what is the glb of j and k?

5) what is the lower bounds of f and g?

b) . . .