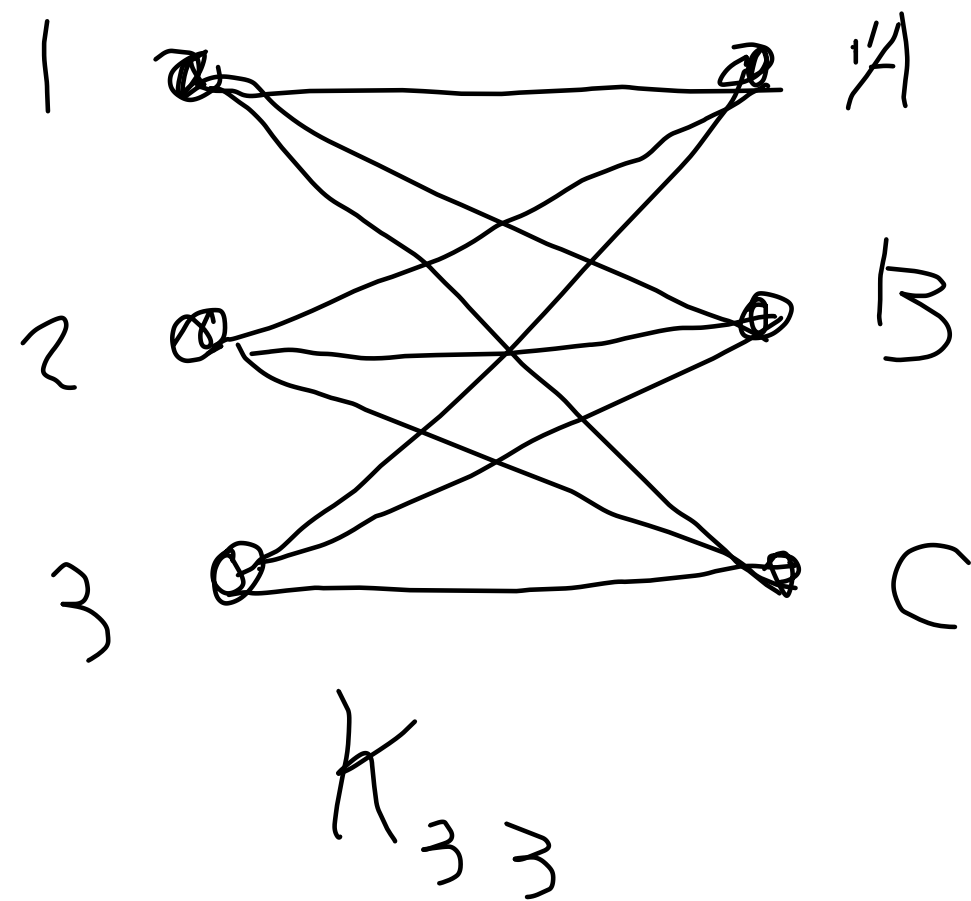
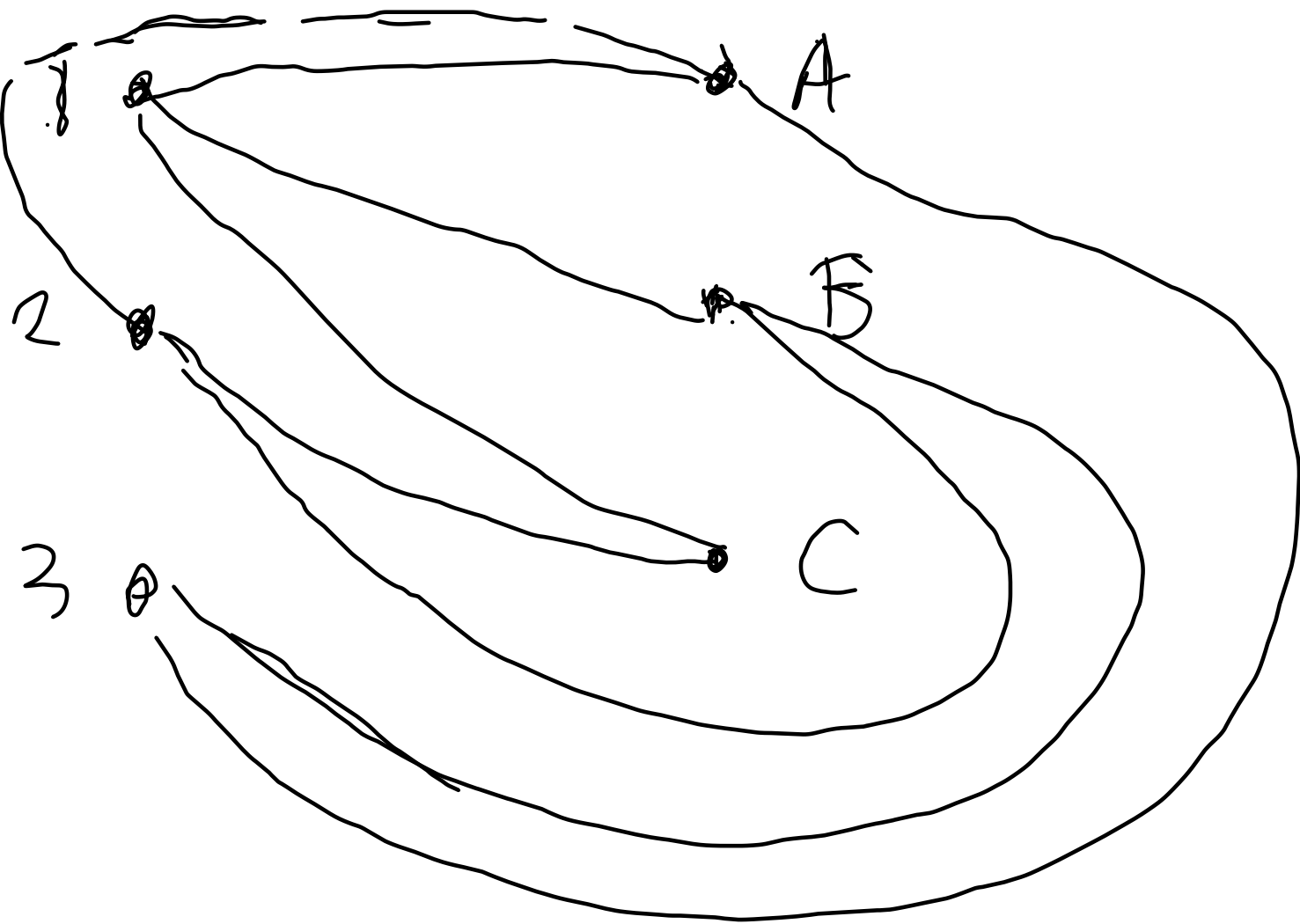
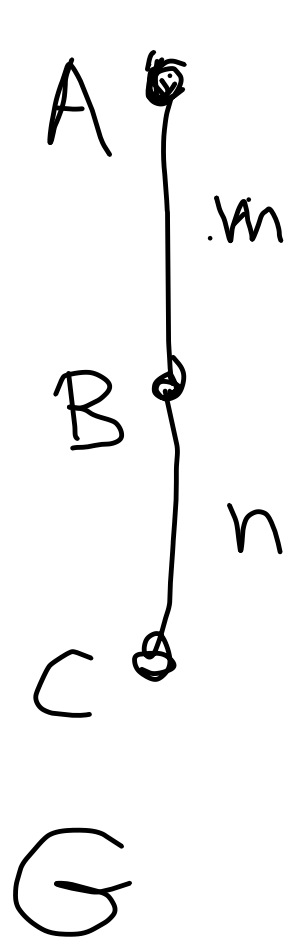




$$\binom{n}{k} = \frac{n!}{k!(n-k)!}$$

$$(x+y)^n = x^n + \binom{n}{1} x^{n-1} y + \binom{n}{2} x^{n-2} y^2 + \dots + y^n$$

$$(x+y)^4 = x^4 + 4x^3y + 6x^2y^2 + 4xy^3 + y^4$$



$$\varphi: V(G) \rightarrow V(H)$$

$$A \mapsto D$$

$$B \mapsto p$$

$$C \mapsto r$$

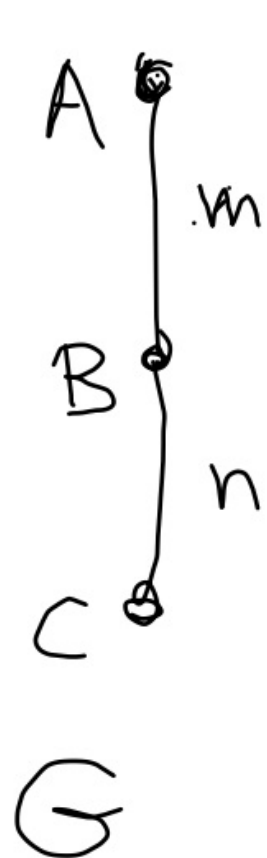
$$\psi: E(G) \rightarrow E(H)$$

$$m \mapsto p$$

$$n \mapsto q$$

$$\psi(m) = p \quad \psi_H(p) = D E =$$

$$\psi_G(m) = \underbrace{= \varphi(A) \varphi(B)}_{AB}$$



$$\theta : V(G) \longrightarrow V(H)$$

$$A \longmapsto D$$

$$B \longmapsto E$$

$$C \longmapsto F$$

$$\varphi : E(G) \longrightarrow E(H)$$

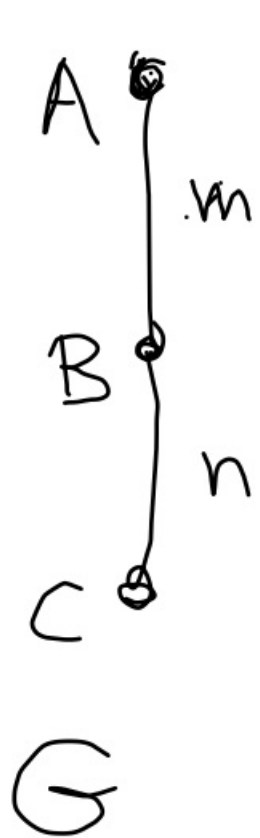
$$m \longmapsto q$$

$$n \longmapsto p$$

$$\varphi(m) = q \quad \psi_H(q) = EF = \theta(B)\theta(C)$$

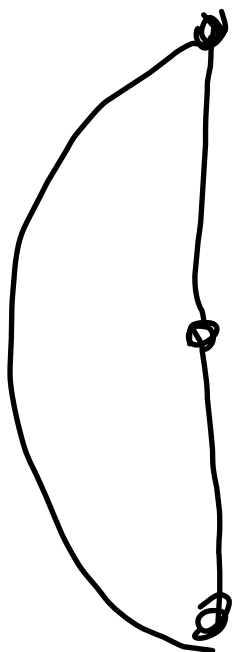
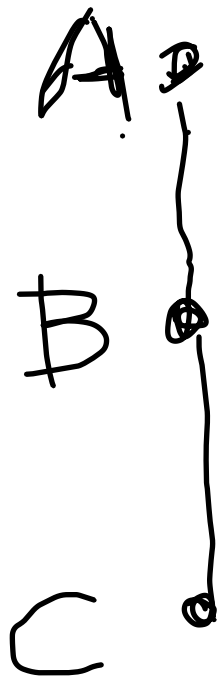
$$\psi_G(m) = AB$$





$$\varphi : V(G) \rightarrow V(H)$$

A	$\mapsto$	D
B	$\mapsto$	F
C	$\mapsto$	E



D

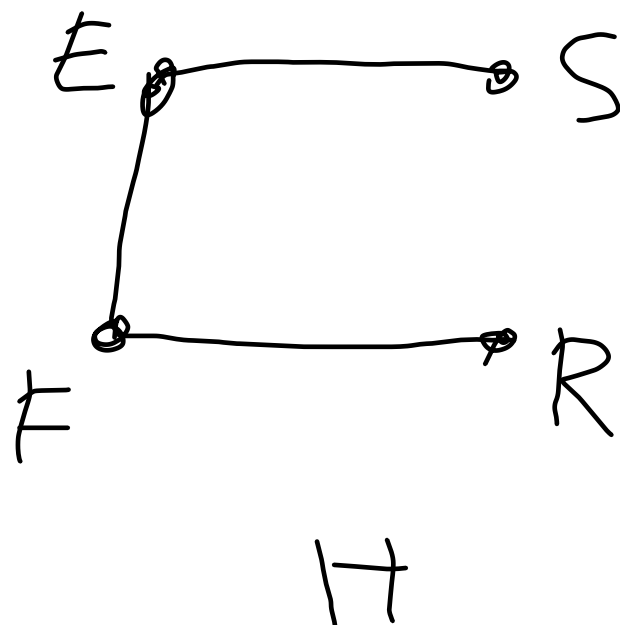
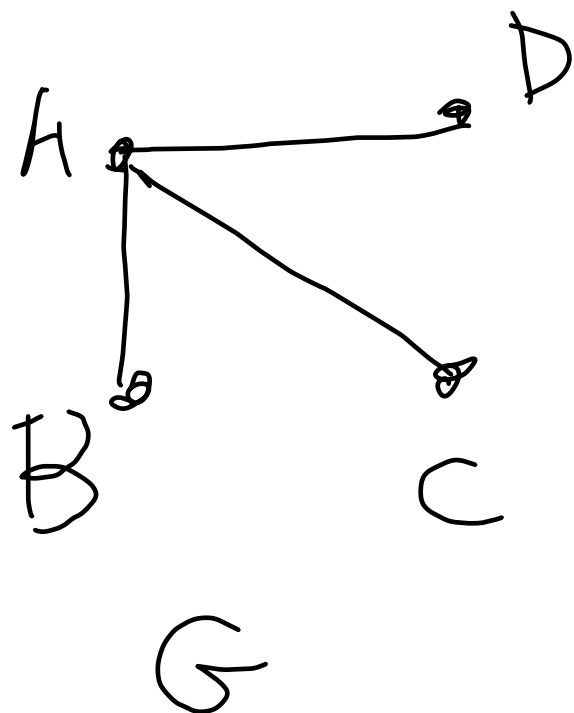
E

F

$A \mapsto D$

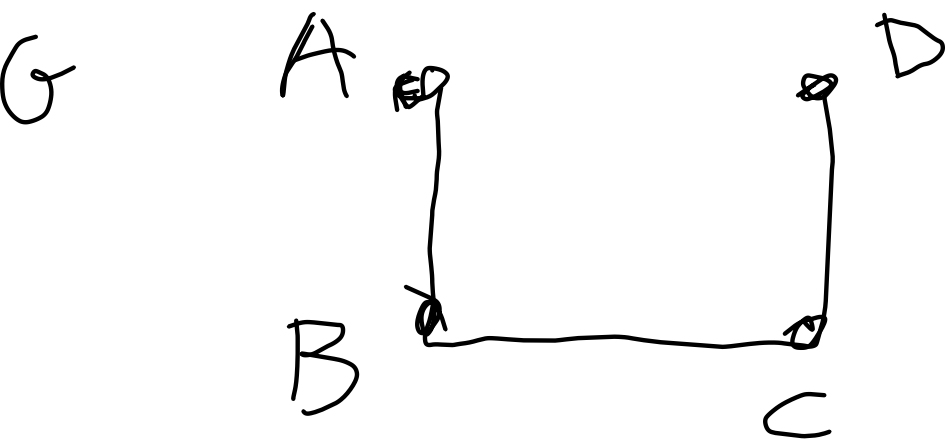
$B \mapsto E$

$C \mapsto F$

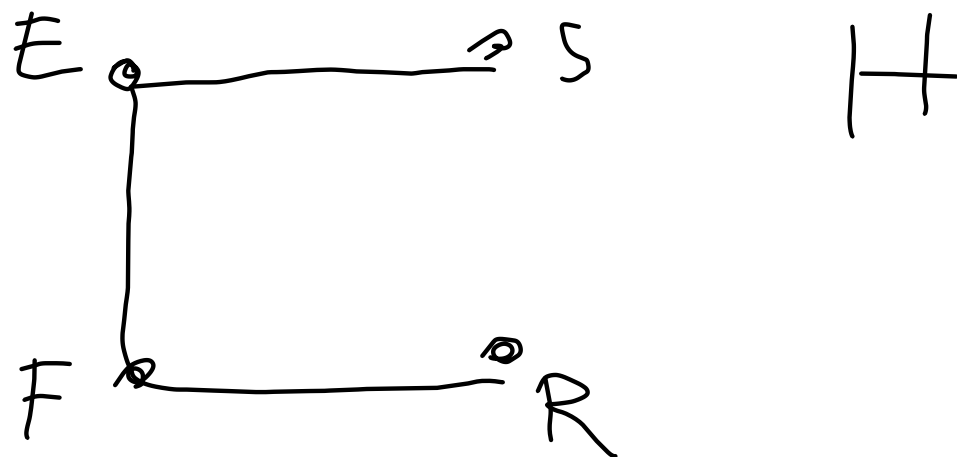
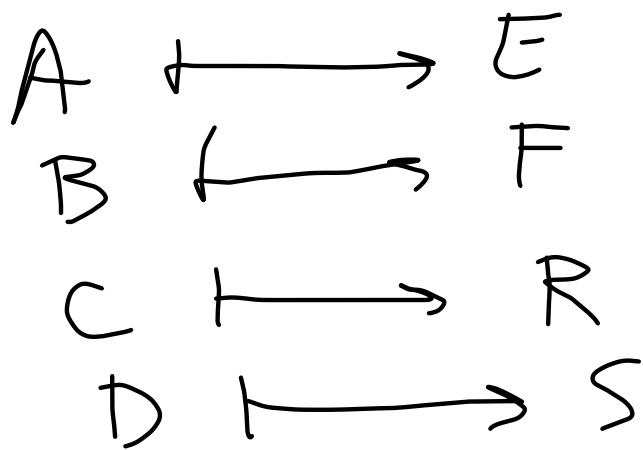


$$\phi: V(G) \rightarrow V(H)$$

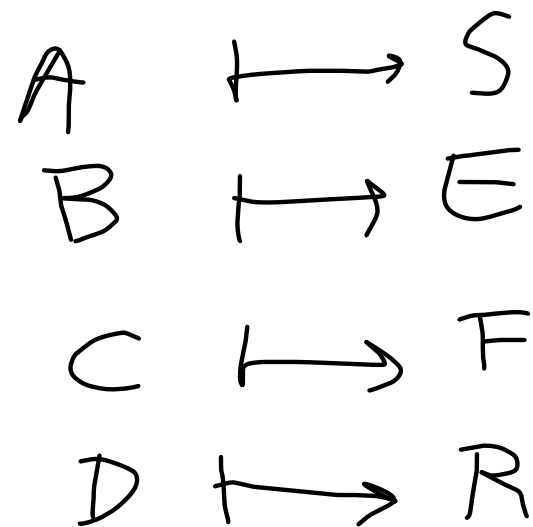
A	$\mapsto$	E
B	$\mapsto$	F
C	$\mapsto$	R
D	$\mapsto$	S



$$Q: V(G) \rightarrow V(H)$$



$$Q: V(G) \rightarrow V(H)$$





$$\theta_1 : V(G) \rightarrow V(H)$$

$$A \mapsto D$$

$$B \mapsto E$$

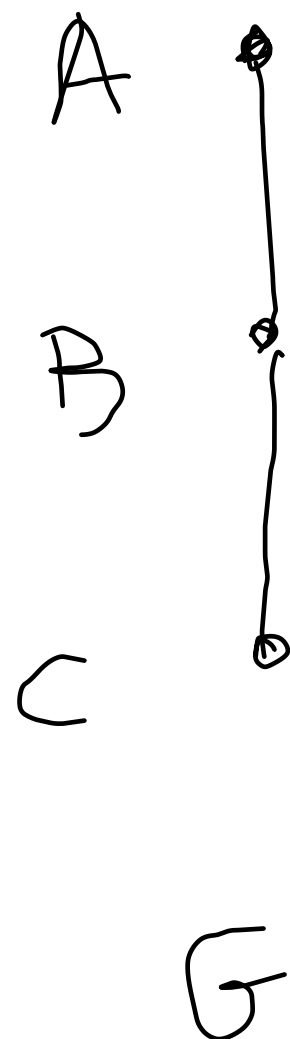
$$C \mapsto F$$

$$\theta_2 : V(G) \rightarrow V(H)$$

$$A \mapsto F$$

$$B \mapsto E$$

$$C \mapsto D$$



$$\mathcal{Q}_1: V(\bar{G}) \rightarrow V(G)$$

$$A \mapsto A$$

$$B \mapsto B$$

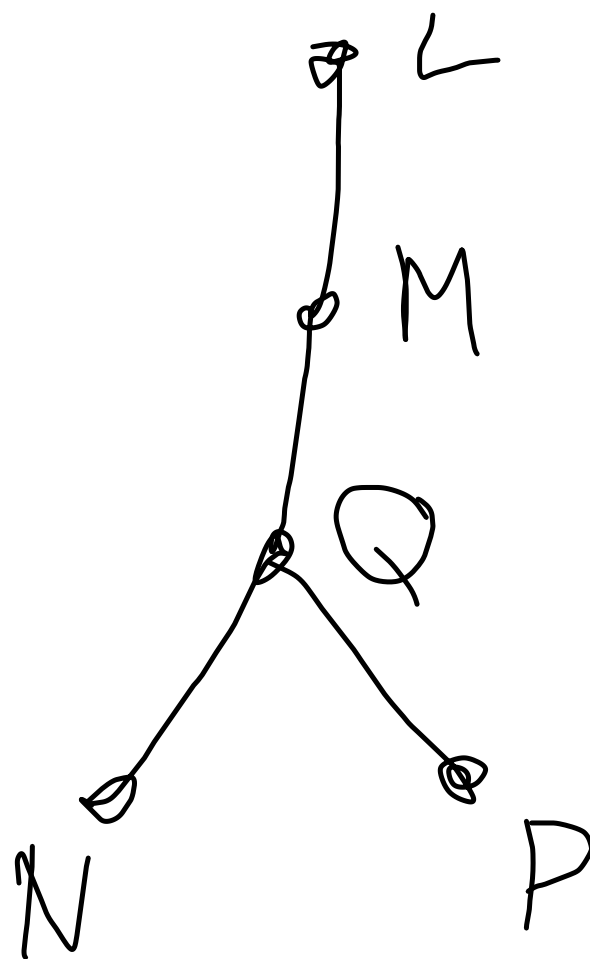
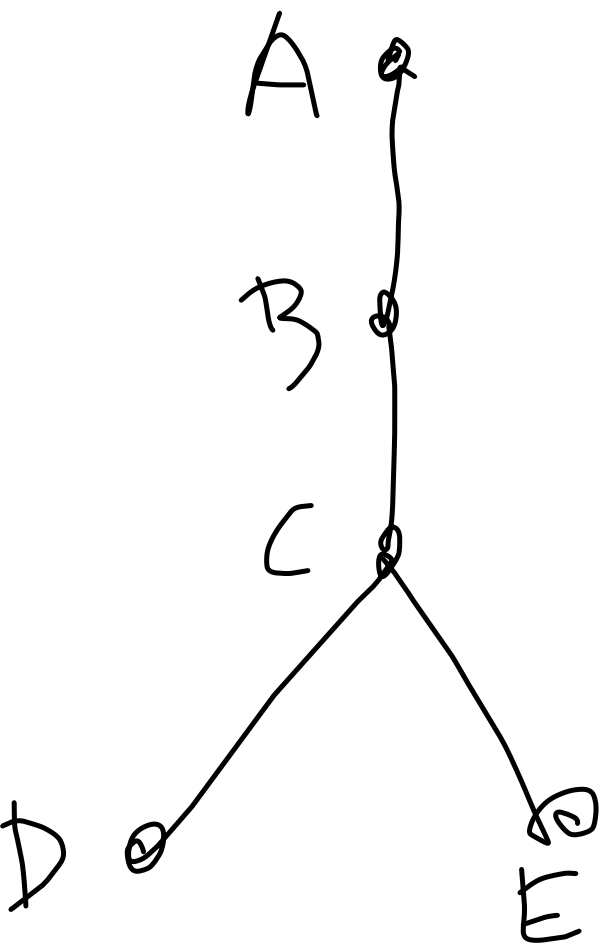
$$C \mapsto C$$

$$\mathcal{Q}_2: V(G) \rightarrow V(G)$$

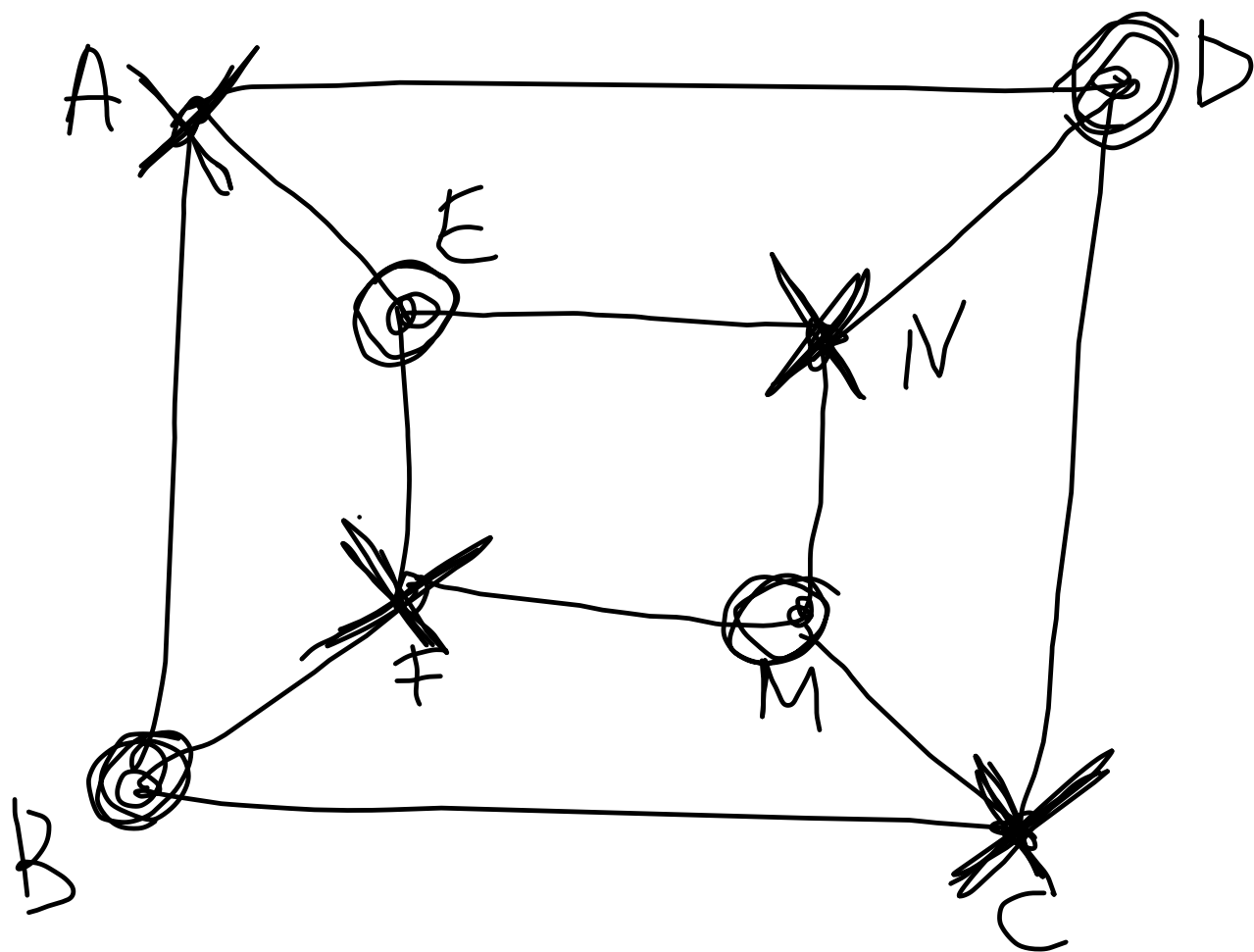
$$A \mapsto C$$

$$B \mapsto B$$

$$C \mapsto A$$

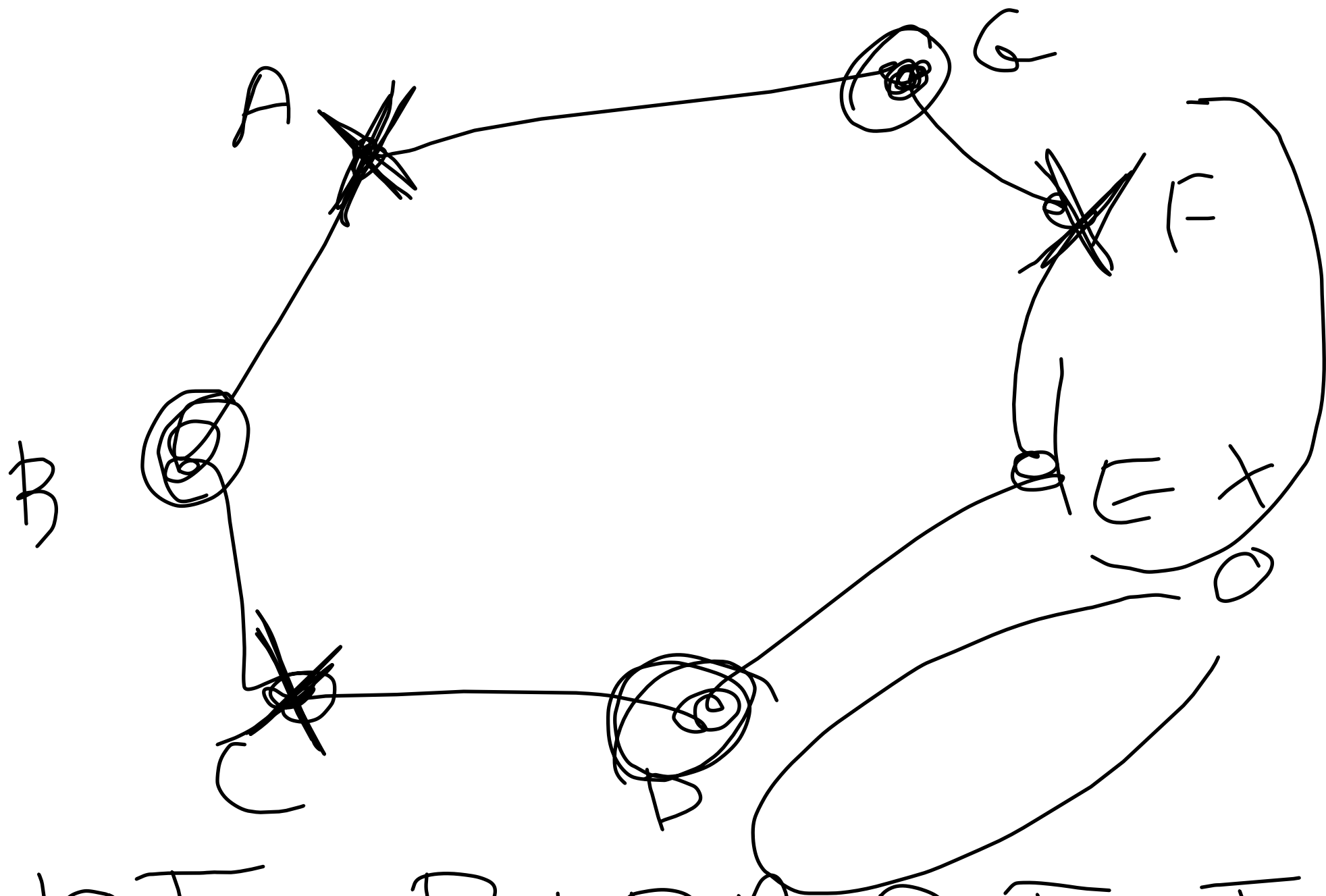


A	$\mapsto$	L
B	$\mapsto$	M
C	$\mapsto$	Q
D	$\mapsto$	N
E	$\mapsto$	P

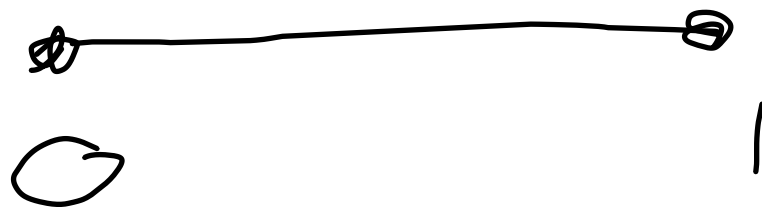


$$X = \{A, C, F, G\}$$

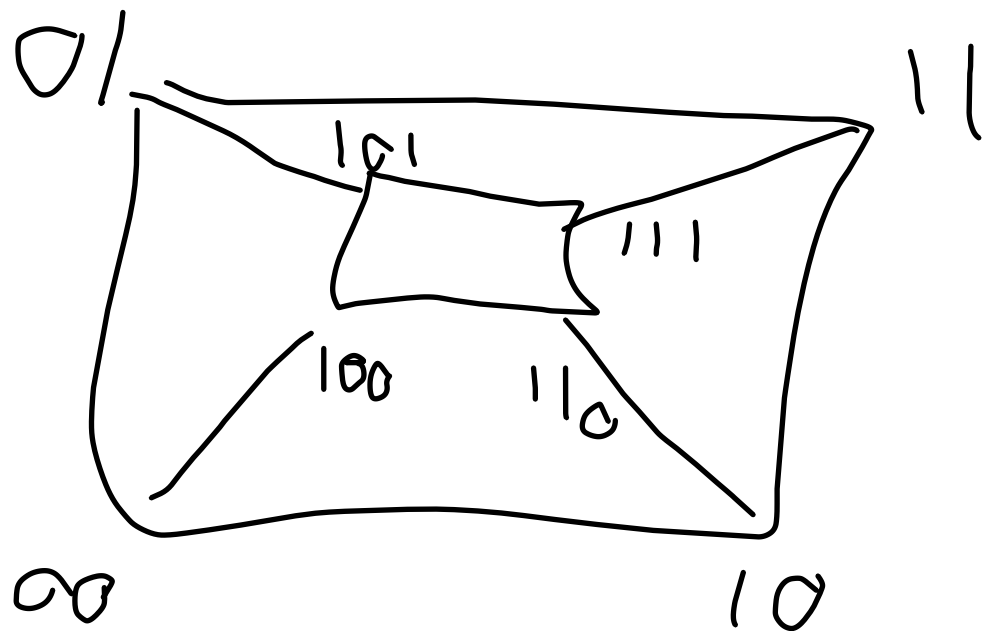
$$Y = \{B, D, E, H\}$$



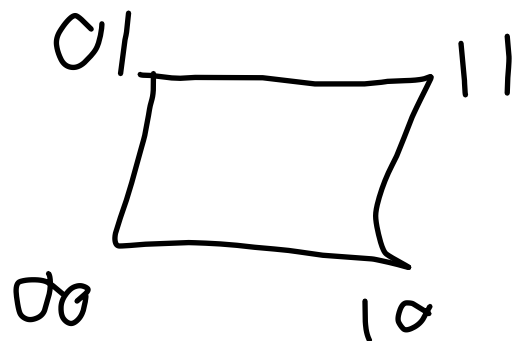
NOT BIPARTITE



1 - cube



3 - cube



2 - cube