

$$V(G) = |V(G)|$$

$$E(G) = |E(G)|$$

cardinality of  $V$  is the number of elements

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

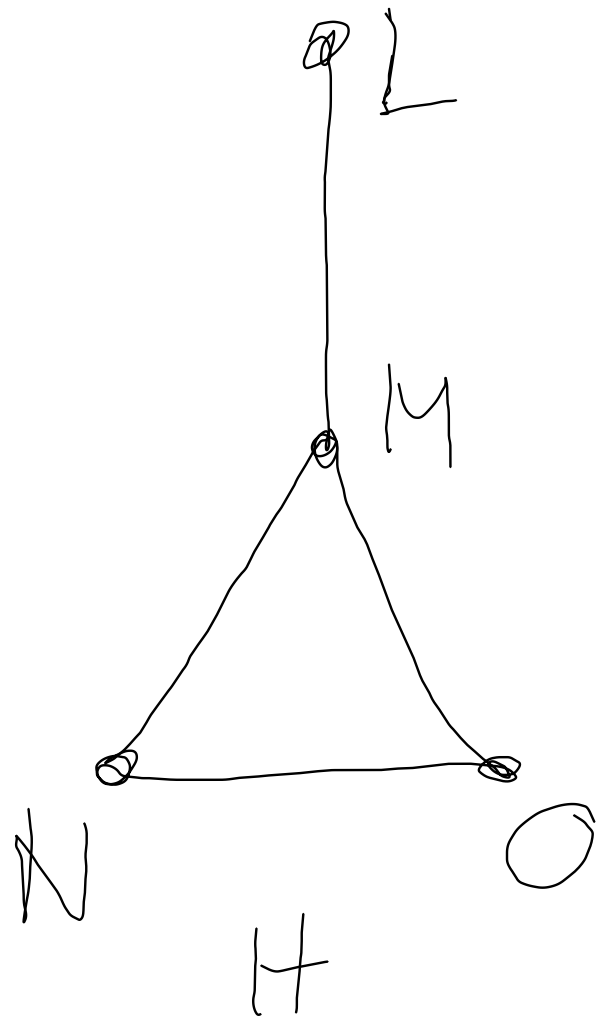
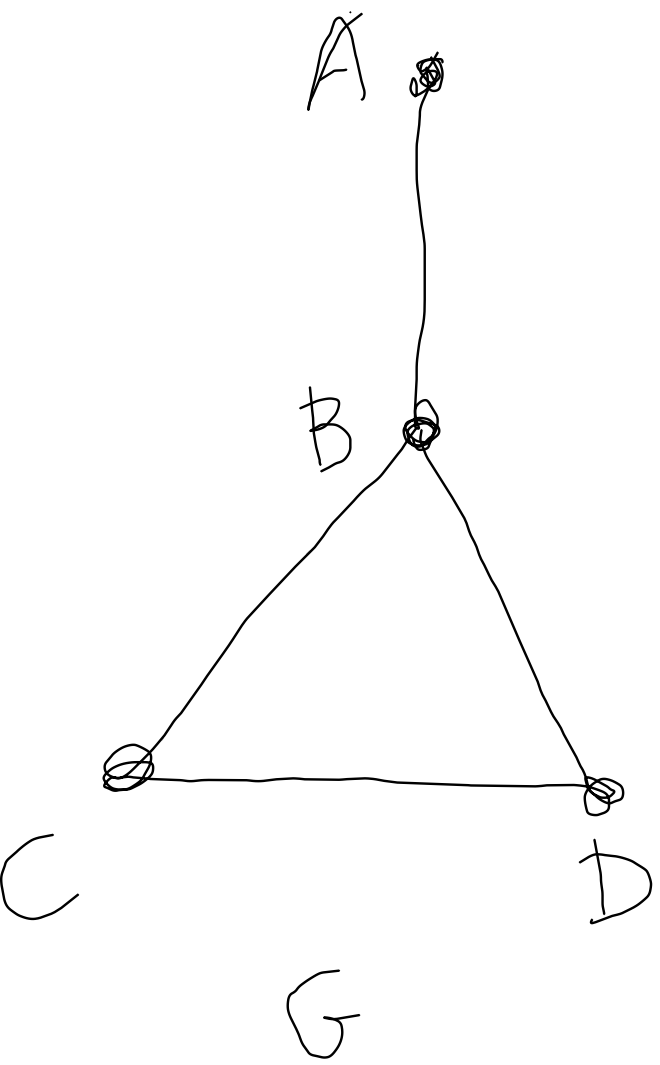
$$11 \cdot 10 \cdot 9 \cdot 8 \cdot 7 \cdot 6 \cdot 5 \cdot 4 \cdot 3 \cdot 2$$


---


$$(2) \cdot (9 \cdot 8 \cdot 7 \cdot 6 \cdot 5 \cdot 4 \cdot 3 \cdot 2) = \frac{11 \cdot 10}{2}$$

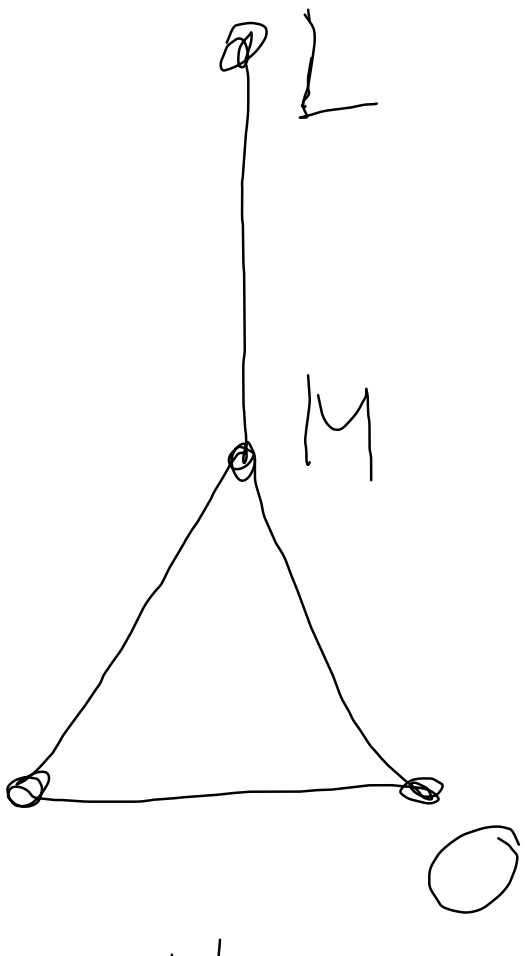
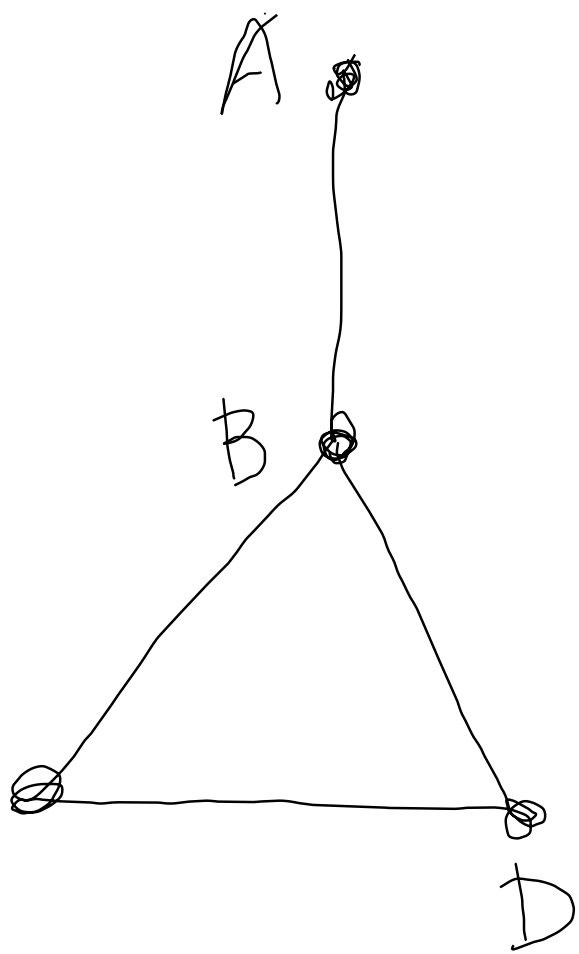
counts the number of possible groupings of  $n$  elements in groups of  $k$  elements

$\binom{11}{2}$  is the number of possible teams of 2 out of you (11)



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

$A$	$\mapsto$	$L$
$B$	$\mapsto$	$M$
$C$	$\mapsto$	$N$
$D$	$\mapsto$	$O$



$$\varphi_1 : V(G) \rightarrow V(H)$$

A	→	L
B	→	M
C	→	N
D	→	O

$$\varphi_2 : V(G) \rightarrow V(H)$$

A	→	L
B	→	M
C	→	O
D	→	N

~~Graph G  $\varphi_3 : V(G) \rightarrow V(H)$~~

A	→	M
B	→	L
C	→	N
D	→	O

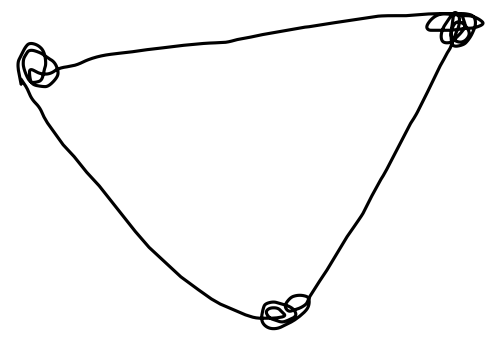
$K_1$



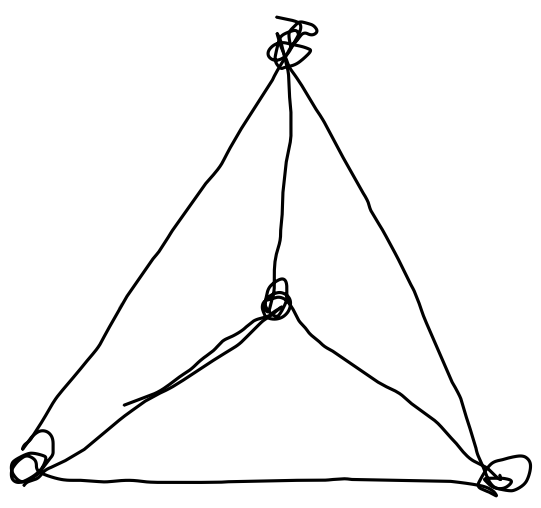
$K_2$



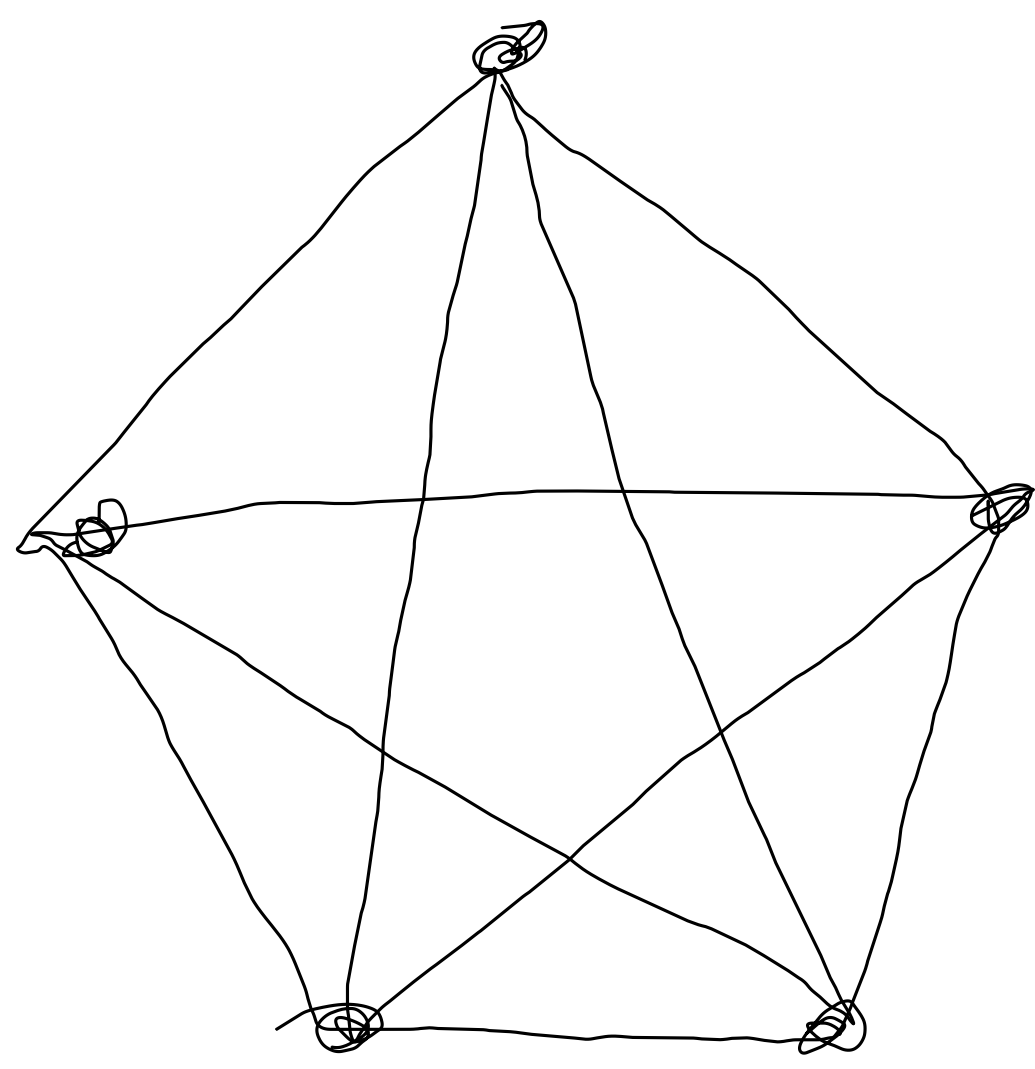
$K_3$

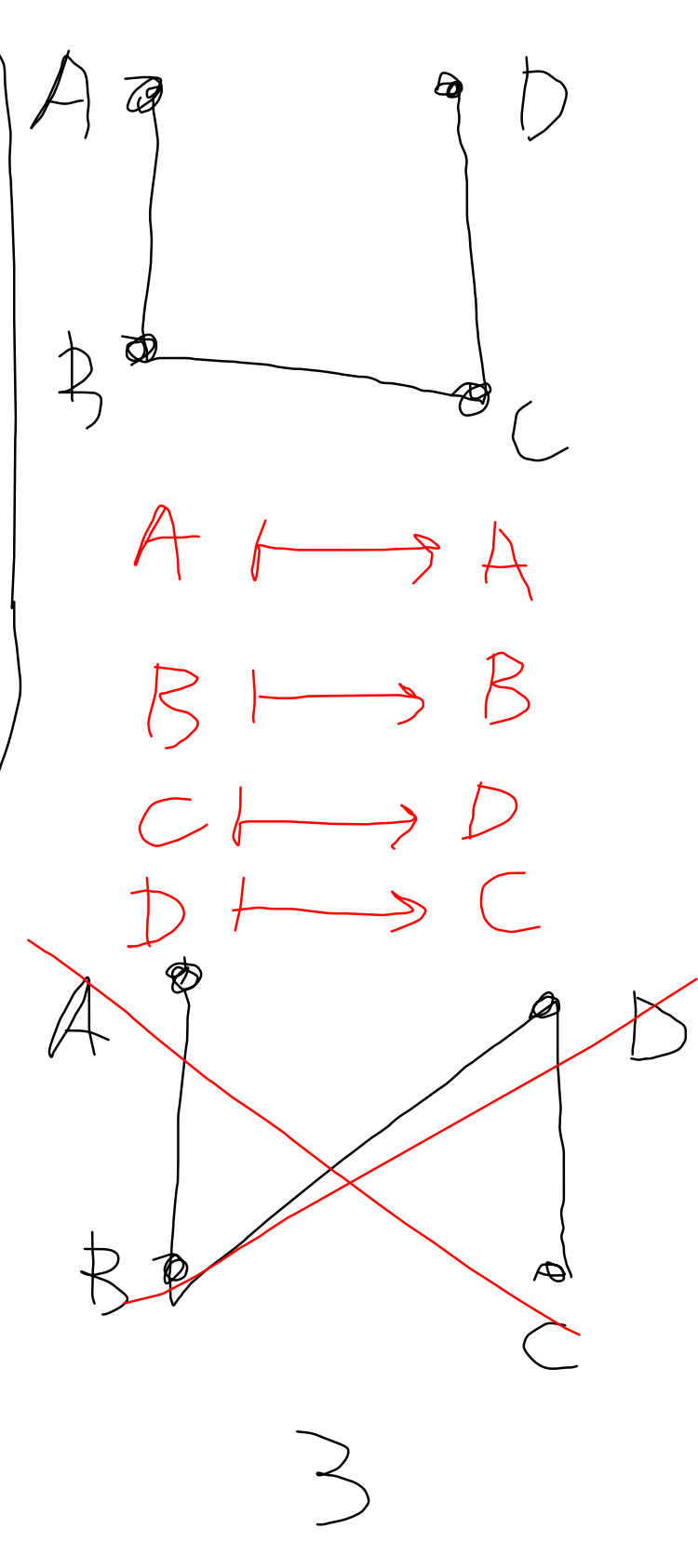
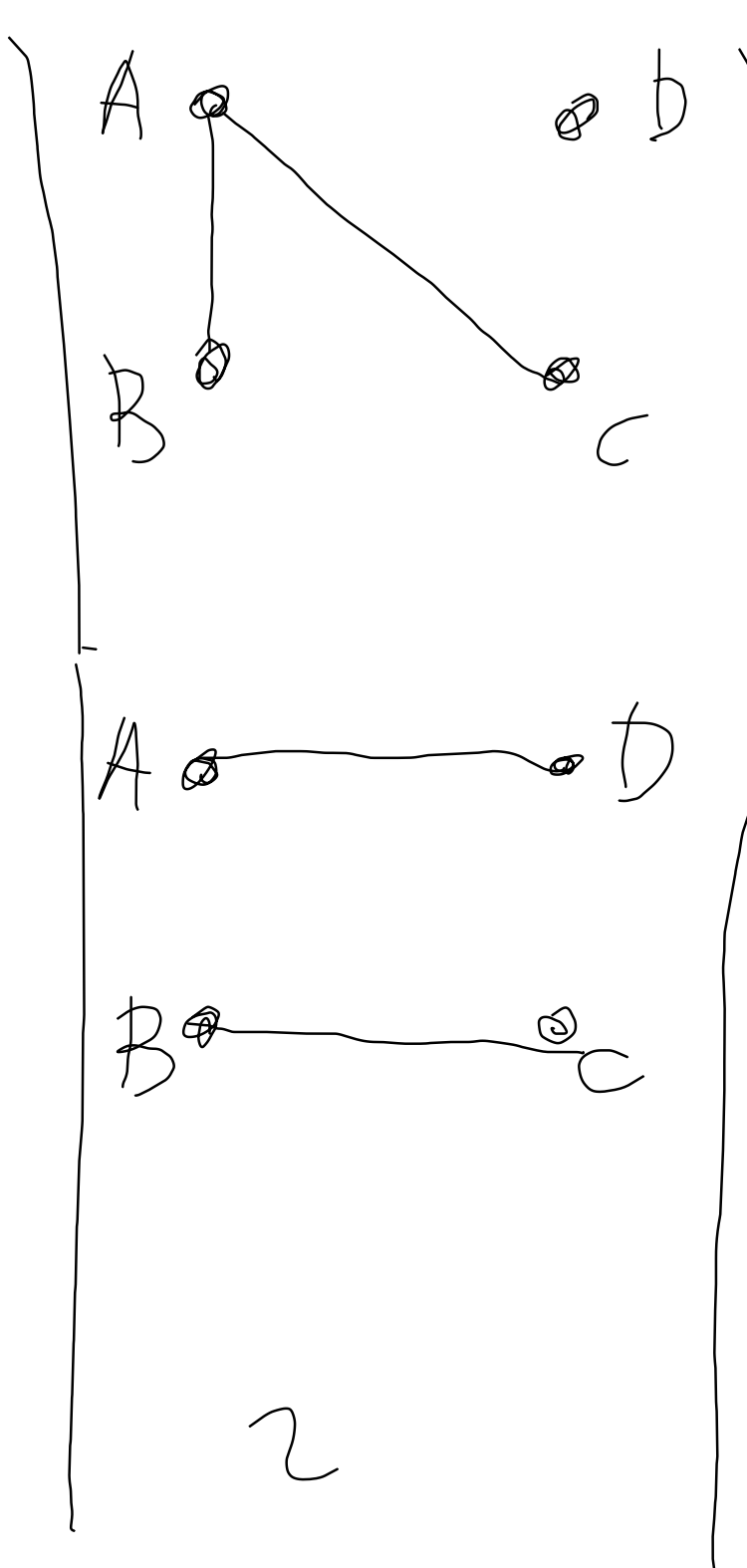
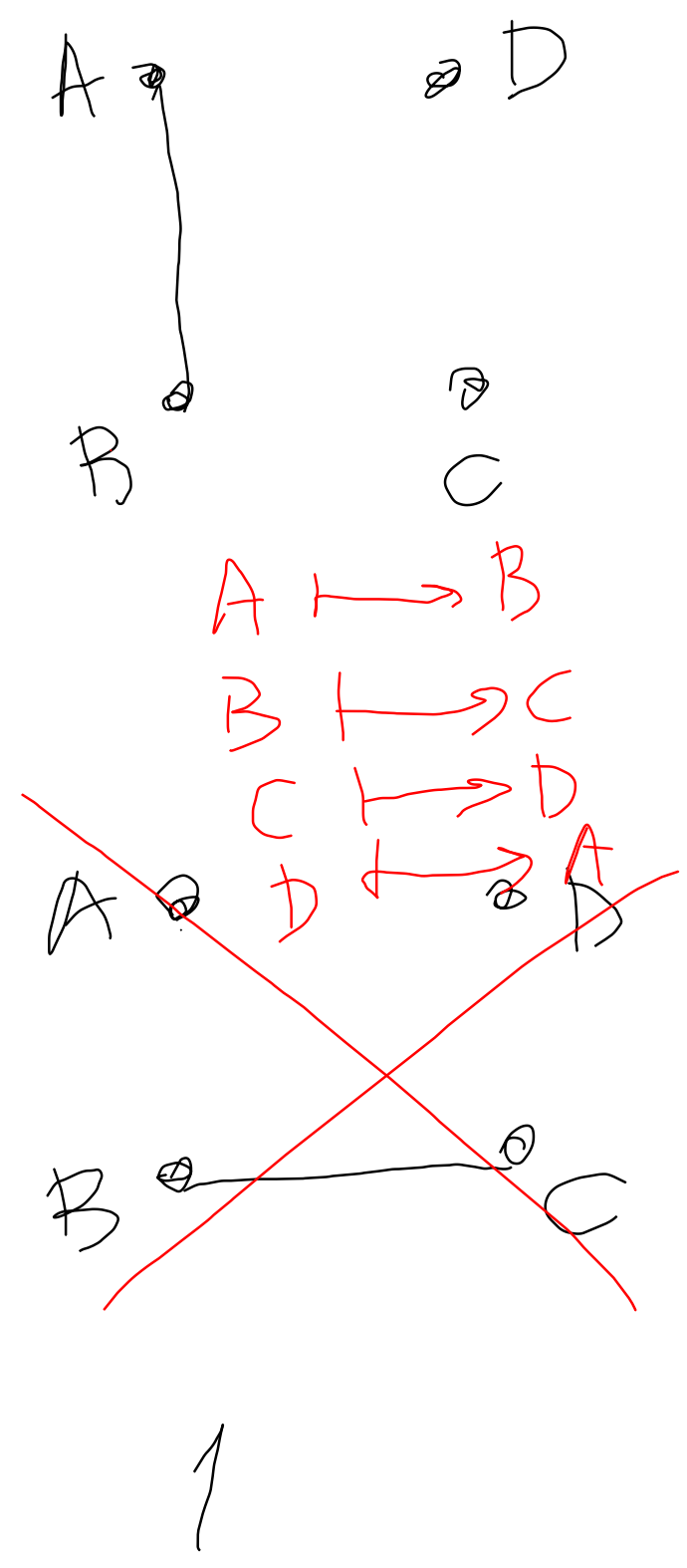
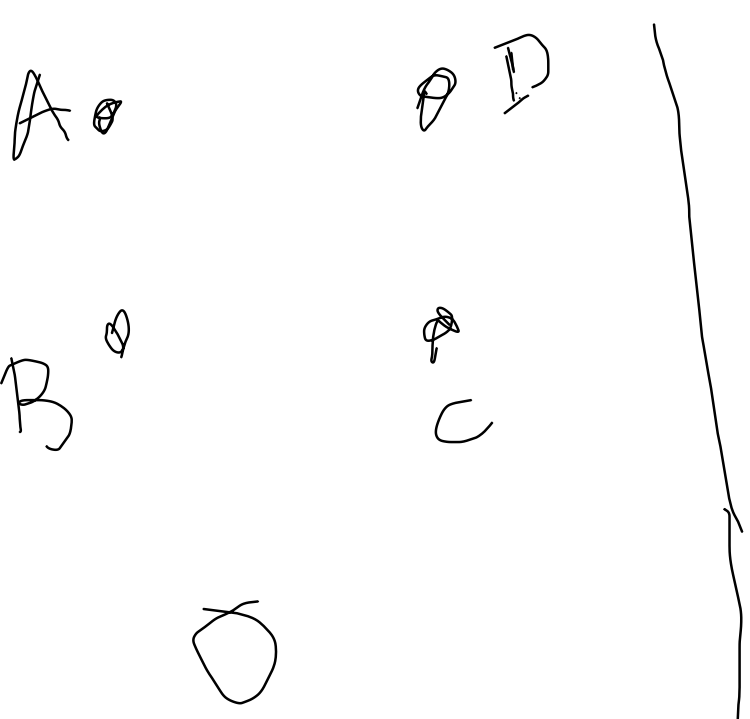


$K_4$



$K_5$

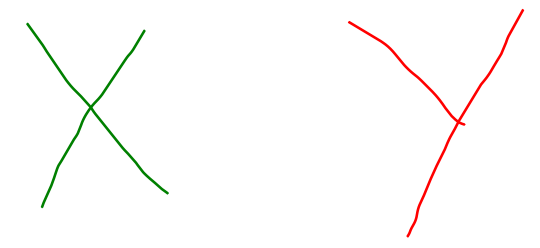
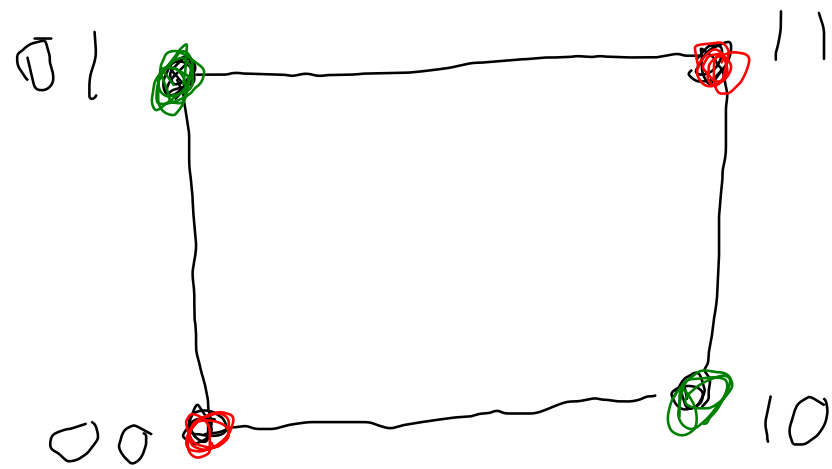




1-cube



2-cube



3-cube

