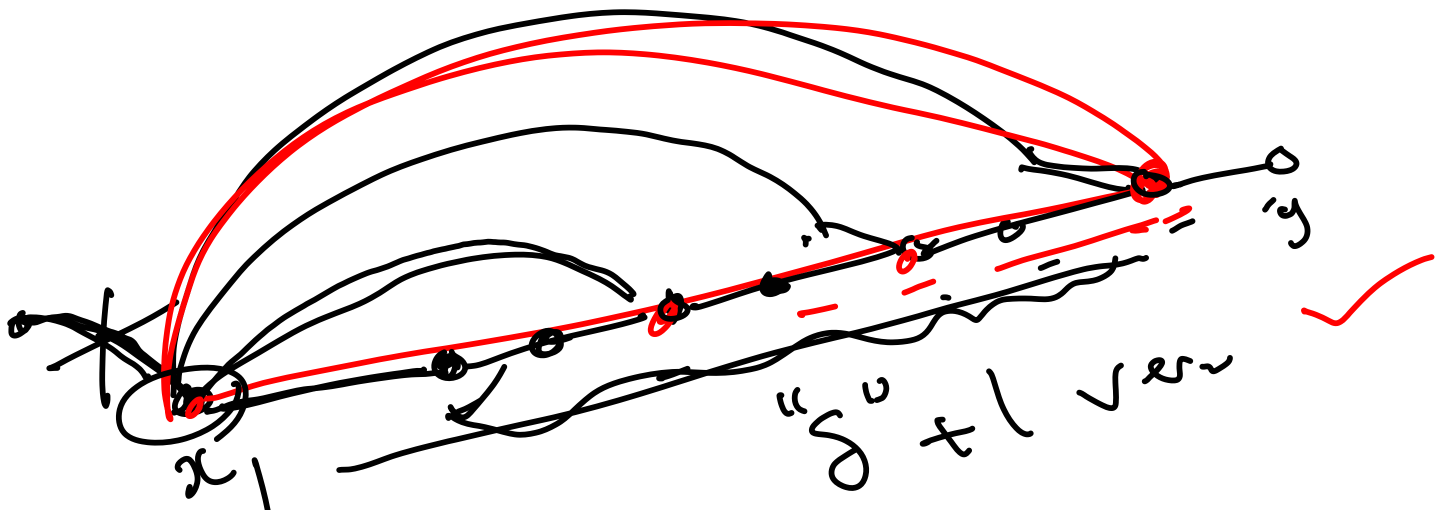
There exists a function $f(k)$ such that if G is $f(k)$-connected, then G is k-linked.



$$\boxed{d(x) \geq \delta}$$

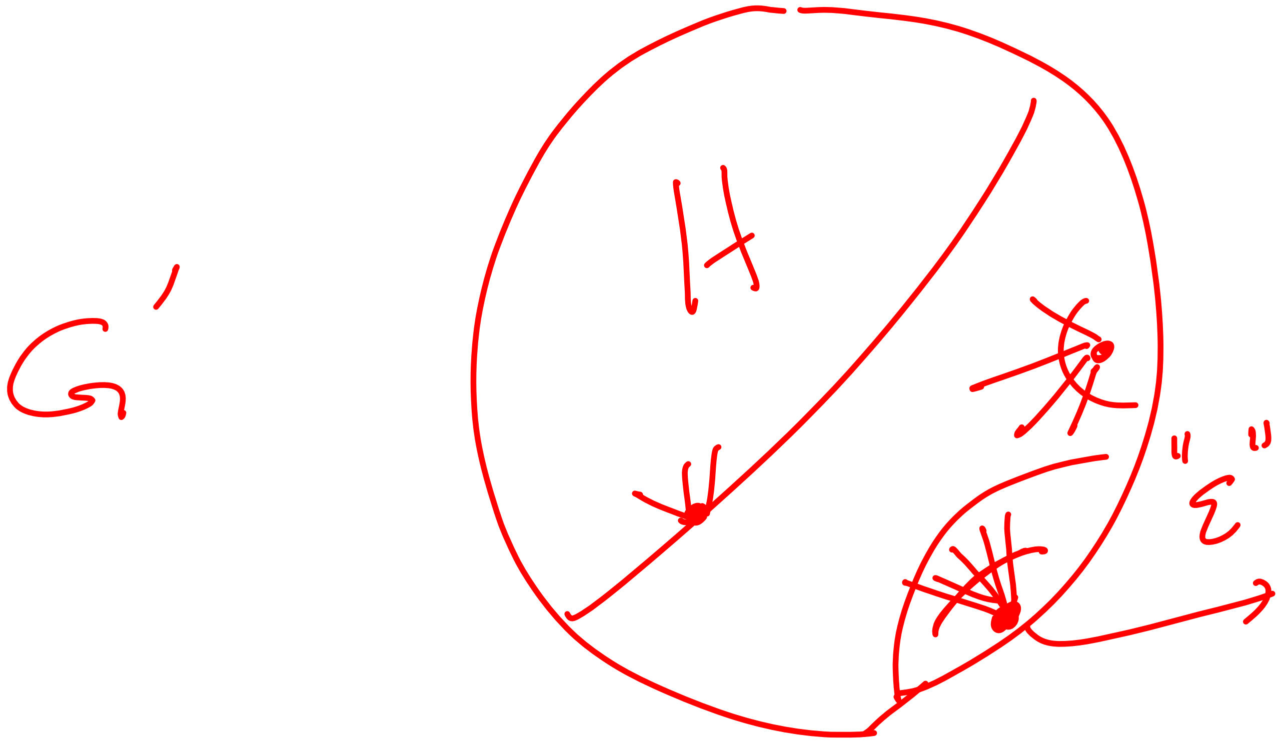
minimum degree $\delta(G)$ ✓

average degree $d_{av}(G)$

$$\frac{\sum_{v \in V(G)} \text{degree}(v)}{|V(G)|} = \left(\frac{2|E(G)|}{|V(G)|} \right)$$ ✓

$$\frac{\frac{|E(G)|}{|V(G)|} = \varepsilon(G)}{\boxed{\varepsilon(G) = \frac{1}{2} d_{av}}}$$

$\varepsilon(G) = \text{"}\varepsilon'\text{"}$

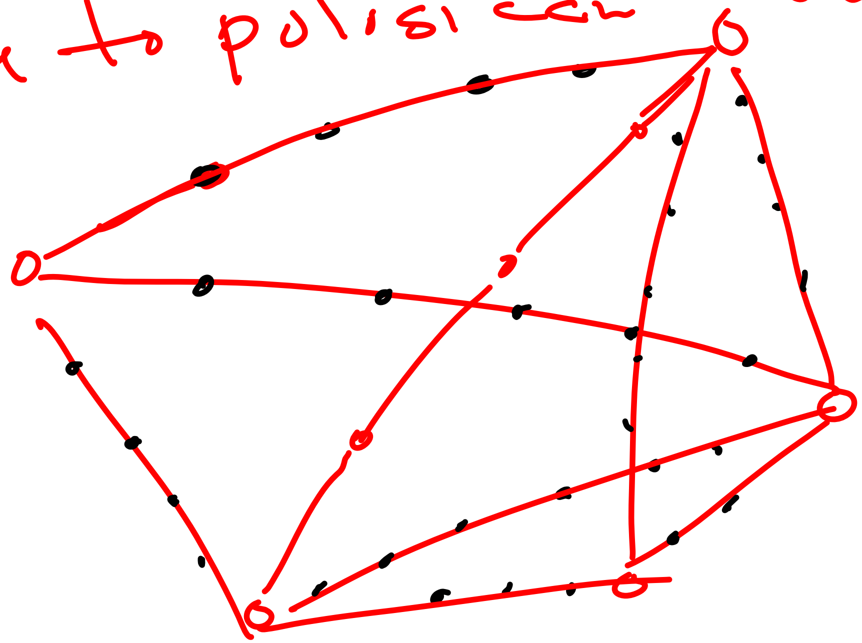


at most ε

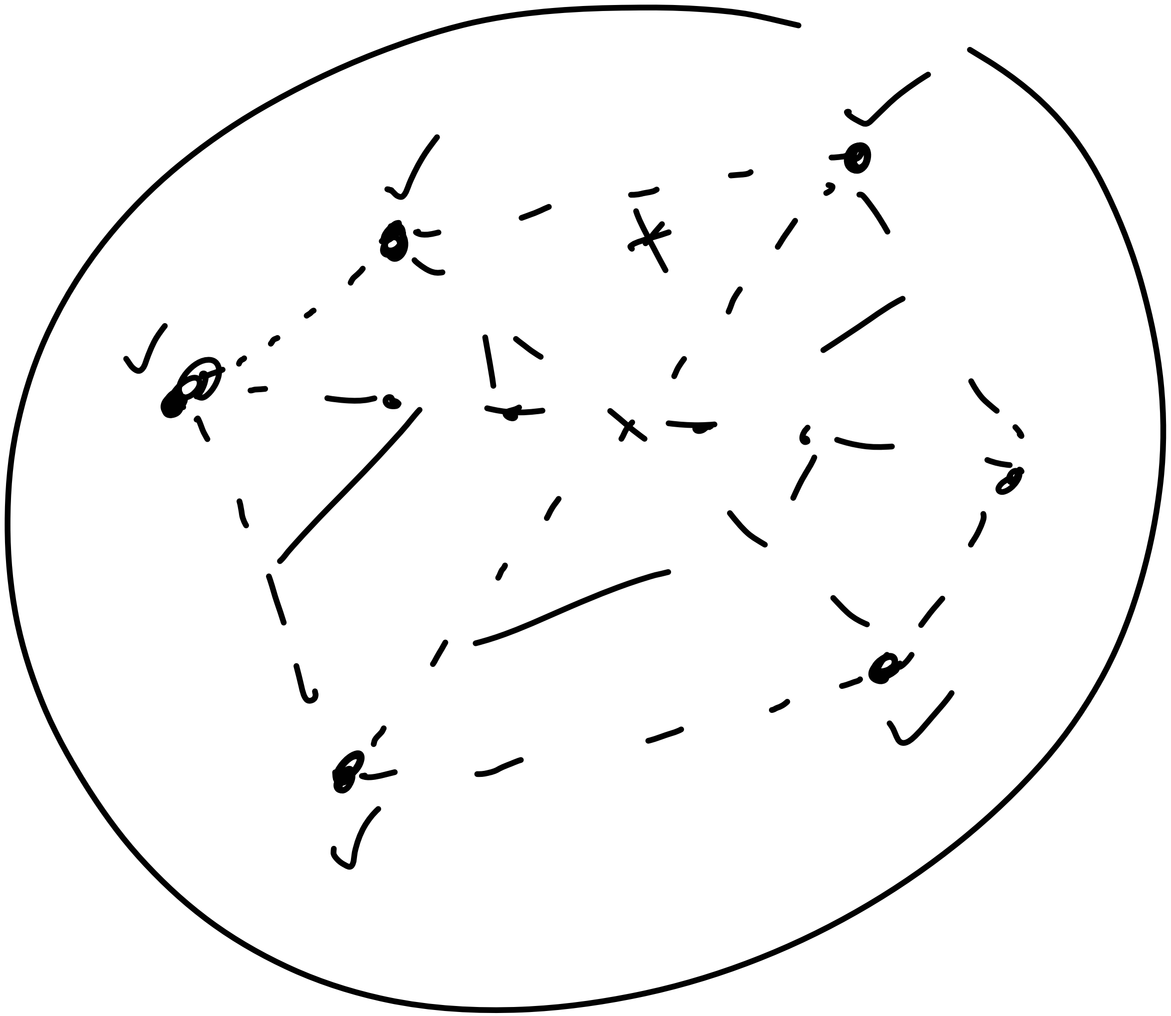
$n \to n-1$

$m \to m-\varepsilon$

K_r is a topological minor of



a graph G iff



$$h(r) = 2^{\binom{r}{2}} \checkmark$$

$r = 1$ $\qquad$ $K_1 \checkmark$

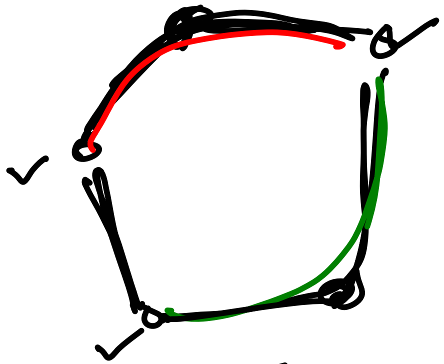
$r = 2$ $\qquad$ $K_2 \checkmark$

r is fixed

We are looking for a Topological $\underline{K_r}$ $\underline{\text{minor}}$. "m" edges can be obtained as a topological minor, if $\underline{h(r) \geq 2^m}$

$m = r, r+1, \ldots, \binom{r}{2}$

$h(r) \geq 2^{r}$



$\varepsilon \geq 2^{r-1}$

$\delta \geq 2^{r-1} + 1 \geq r$ ✓

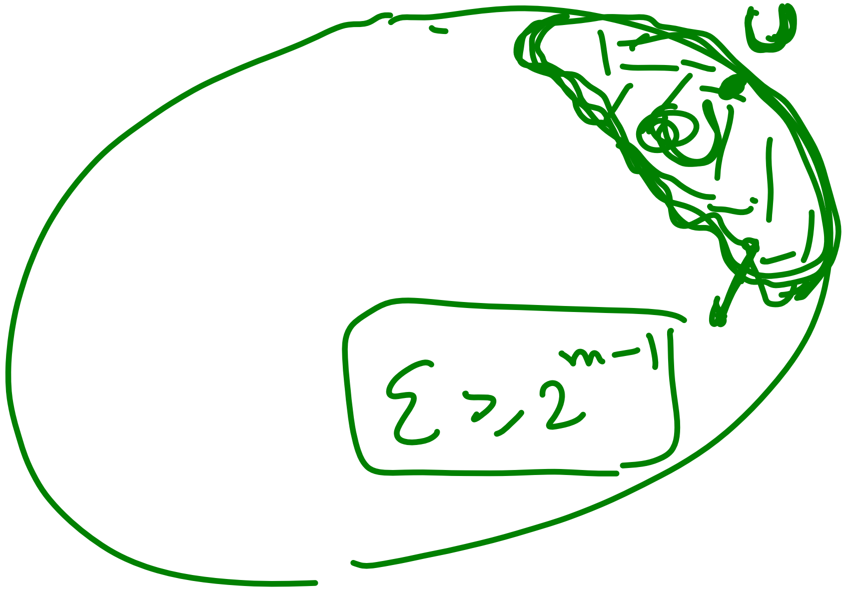
$\delta + 1 \geq r + 1$ ✓

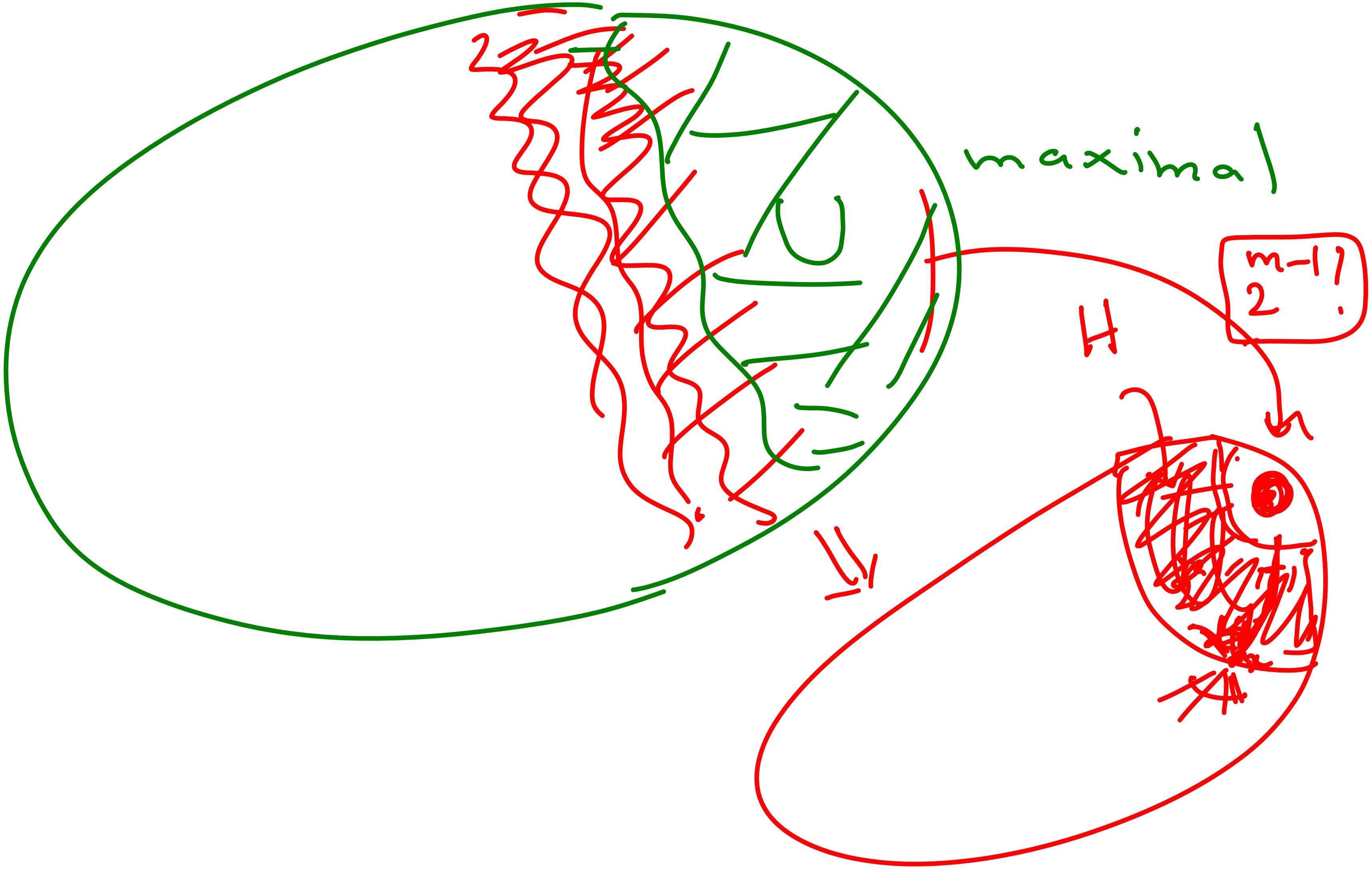
$h(r) \geq 2^{m-1}$ ✓

$G' = G \setminus \psi$

$\boxed{h(r) \geq 2^{m}}$

$\Sigma \geq 2^{m-1}$ ✓




maximal
H
m-1?
2!

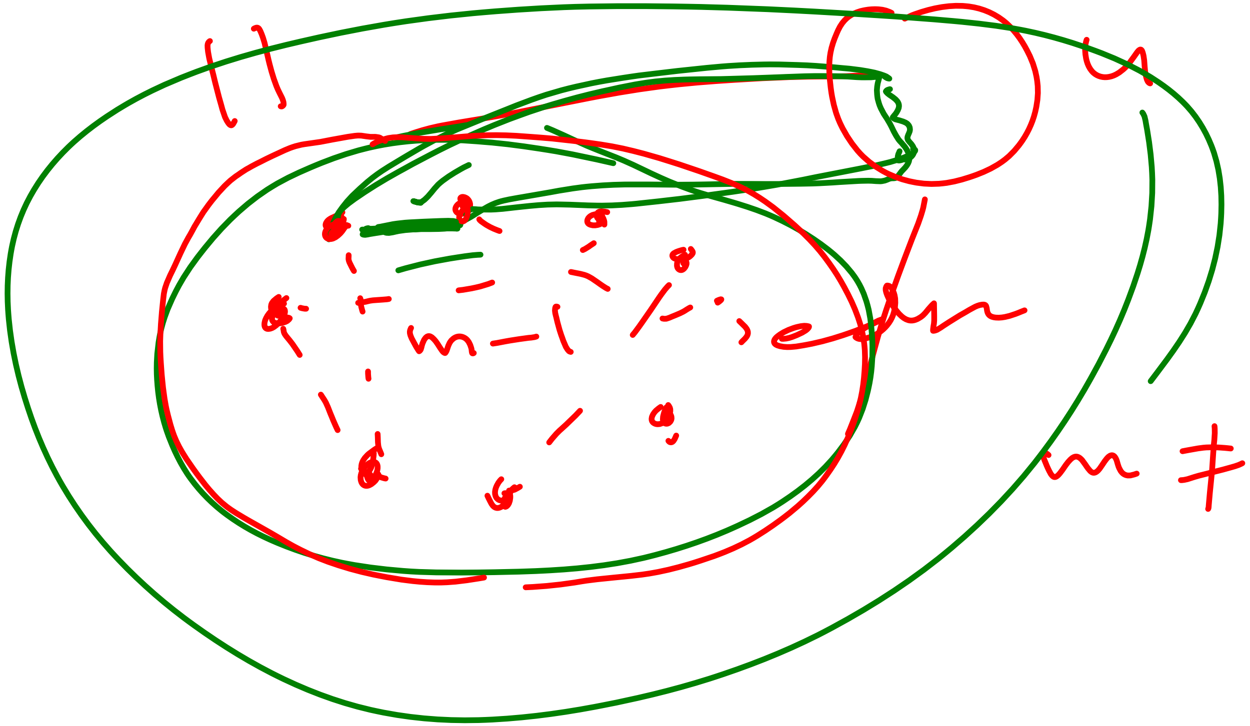
$d(x) < 2^{m-1}$

$d(x)+1$

$\leq \boxed{2^{m-1}}$

2^{m-1}

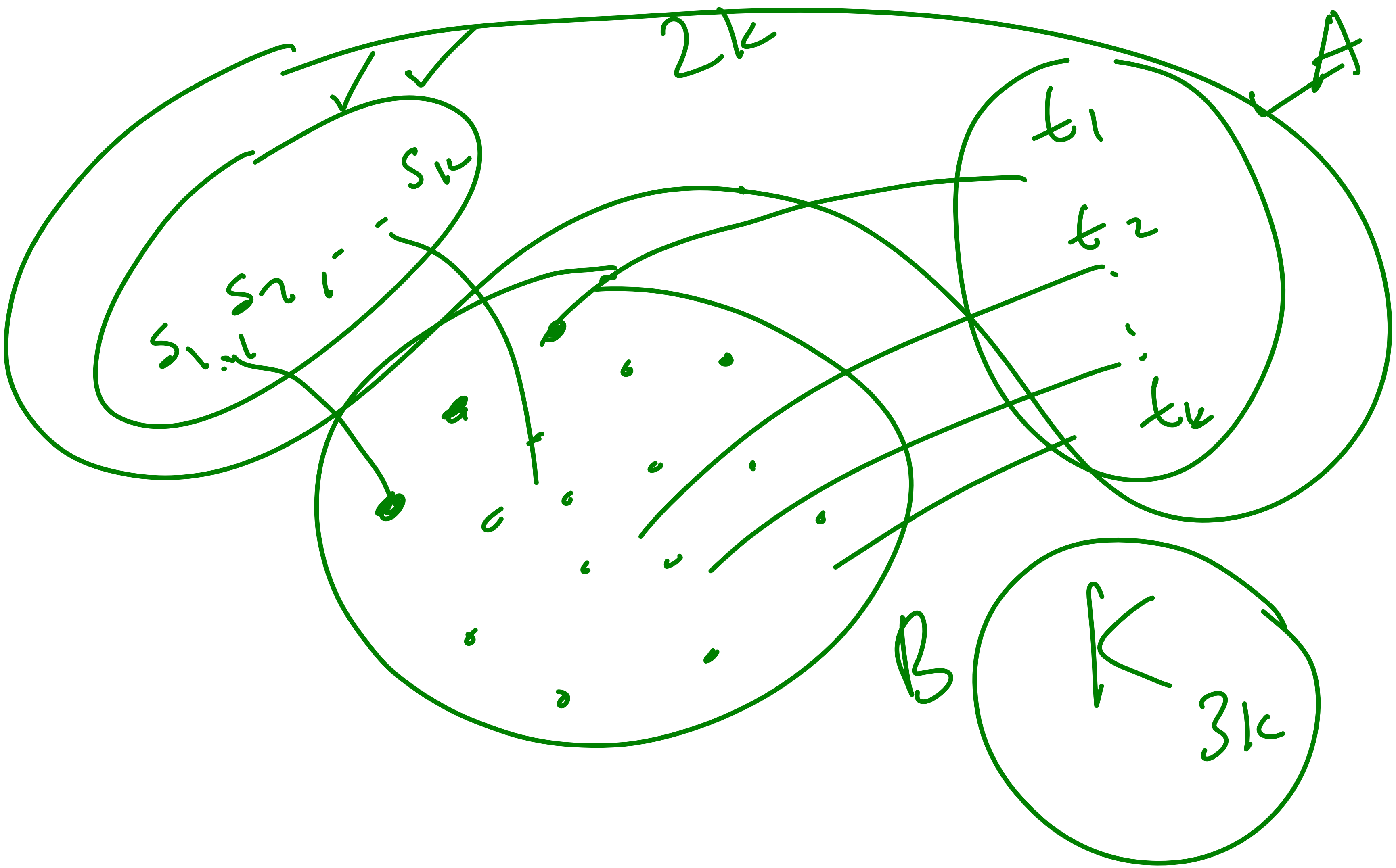
2 ✓

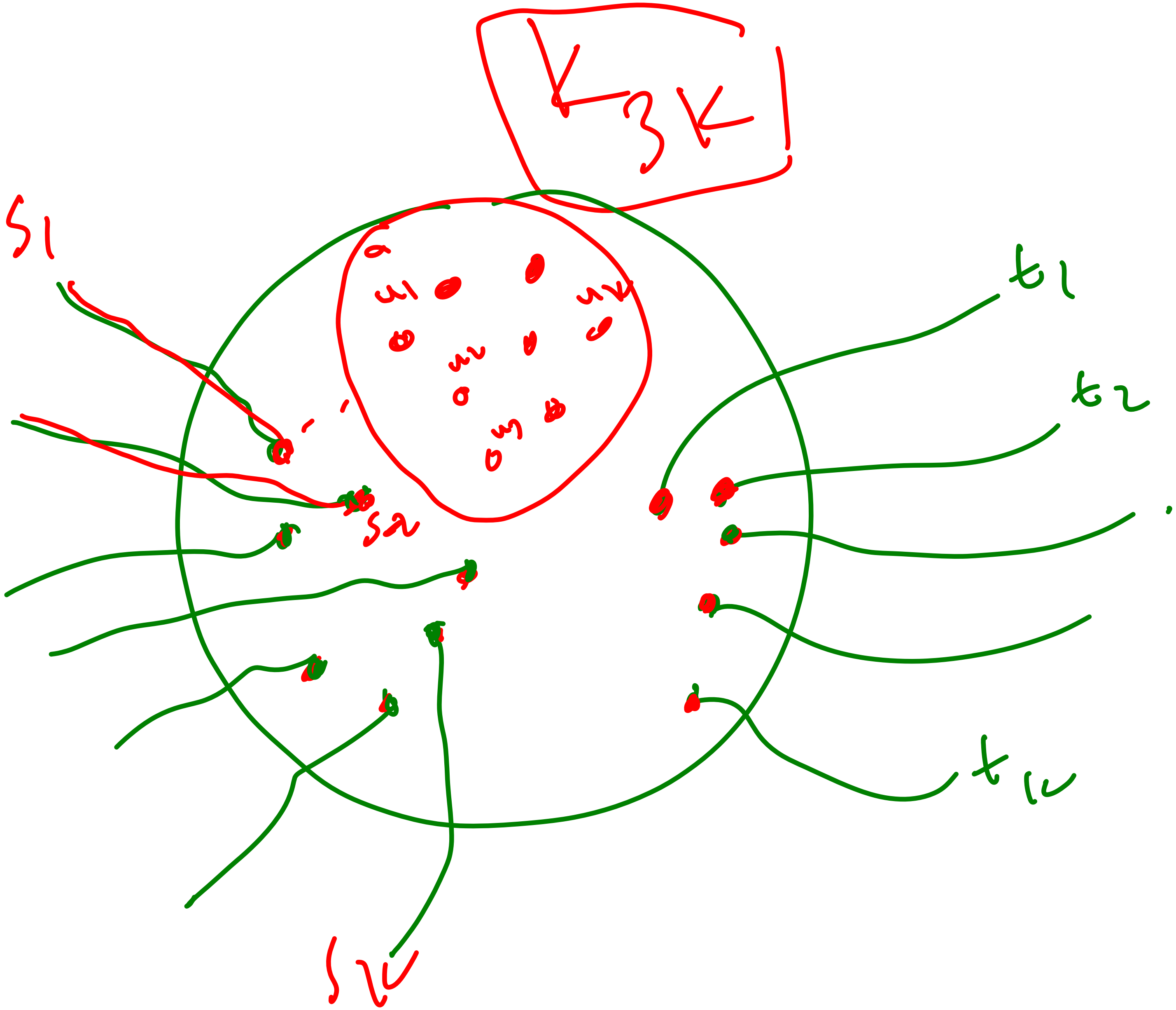


$m \neq \binom{r}{2}$

r

with


2k
A
s_1
s_2
s_k
t_1
t_2
t_k
B
K
3k



K_{3K}
s_1
s_2
s_k
t_1
t_2
t_k
u_1
u_2
u_3
u_k

s_1
u_1
t_1
x_1
y_1