Indep \leq \text{Clique}

X = (G, 1c) \text{ input of indep}

f(x) = (\overline{G}, 1c) \text{ clique}

x \text{ is yes indep } \iff f(x) \text{ yes of clique}

x \text{ is indep } \implies f(x) \text{ yes clique}

Vertex Cover \leq_p \text{ indep Set}

f(x) = (G, n-1c)

(T x) \text{ of vertex cover } \implies \text{ yes indep set}

\text{yes of indep set } \implies \text{ yes instead of vertex cover}

151 \leq k

V-S is a vertex cover

\text{V-S is in an indep set}

\text{14-S} \text{ } \geq \text{ } n-k
\( x \text{ is } yes \implies P(x) \text{ is } yes \) for set cover

Choose \( S_v \) for all \( v \in T \)

\( |T| \leq k \)

\( f(x) \text{ is } yes \implies \text{ all } U \subseteq V \) is a vertex cover

\( S_{v_1}, S_{v_2}, \ldots, S_{v_k} \) that cover all \( U \).

All edges are in one of \( S_{v_1}, \ldots, S_{v_k} \).

\( S_0 \) connected to one of \( v_1, \ldots, v_k \).

\( S_0 \cup \{ v_1, \ldots, v_k \} \) is a vertex cover.