Input: A directed graph $G = (V, E)$ and a collection of $k$ source-destination pairs $\{(s_1, t_1), (s_2, t_2), \ldots, (s_k, t_k)\}$.
Question: Is there a collection of $k$ node-disjoint paths, with the $i$-th path connecting $s_i$ to $t_i$?

Show that $3$-SAT $\leq_P$ NDP.

Hint. Let $F = C_1 \land C_2 \land \ldots \land C_l$ be a $3$-CNF formula and suppose that it uses variables $x_1, x_2, \ldots, x_n$. Then the corresponding NDP instance will have $l+n$ source-destination pairs.