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ladder connected

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Definition Suppose X is a topological space. Then X is called **ladder connected** provided that any open cover \mathcal{U} of X has the following property: If $p, q \in X$, then there exists a finite number of open sets U_1, \dots, U_N from \mathcal{U} such that $p \in U_1$, $U_1 \cap U_2 \neq \emptyset, \dots, U_{N-1} \cap U_N \neq \emptyset$, and $q \in U_N$.