

X is a topological space, A a subset of X .
Suppose for each $x \in A$ \exists an open set U s.t.
 $U \subset A$. show that A is open in X .

let $x \in A$. then $x \in U \subset A$ $\exists B$ s.t.
 $x \in B \subset U \subset A \rightarrow A$ is open