

Show that a closed subspace of a normal space is normal.

Let  $X$  be normal,  $Y$  a closed subspace of  $X$ . Let  $A, B$  be closed subsets of  $Y$ . Then  $A$  and  $B$  are closed in  $X$ . Then there are open disjoint subsets  $U, V$  containing  $A$  and  $B$  then  $U \cap Y, V \cap Y$  are disjoint, open in  $Y$  and contains  $A, B$  so  $Y$  is normal.