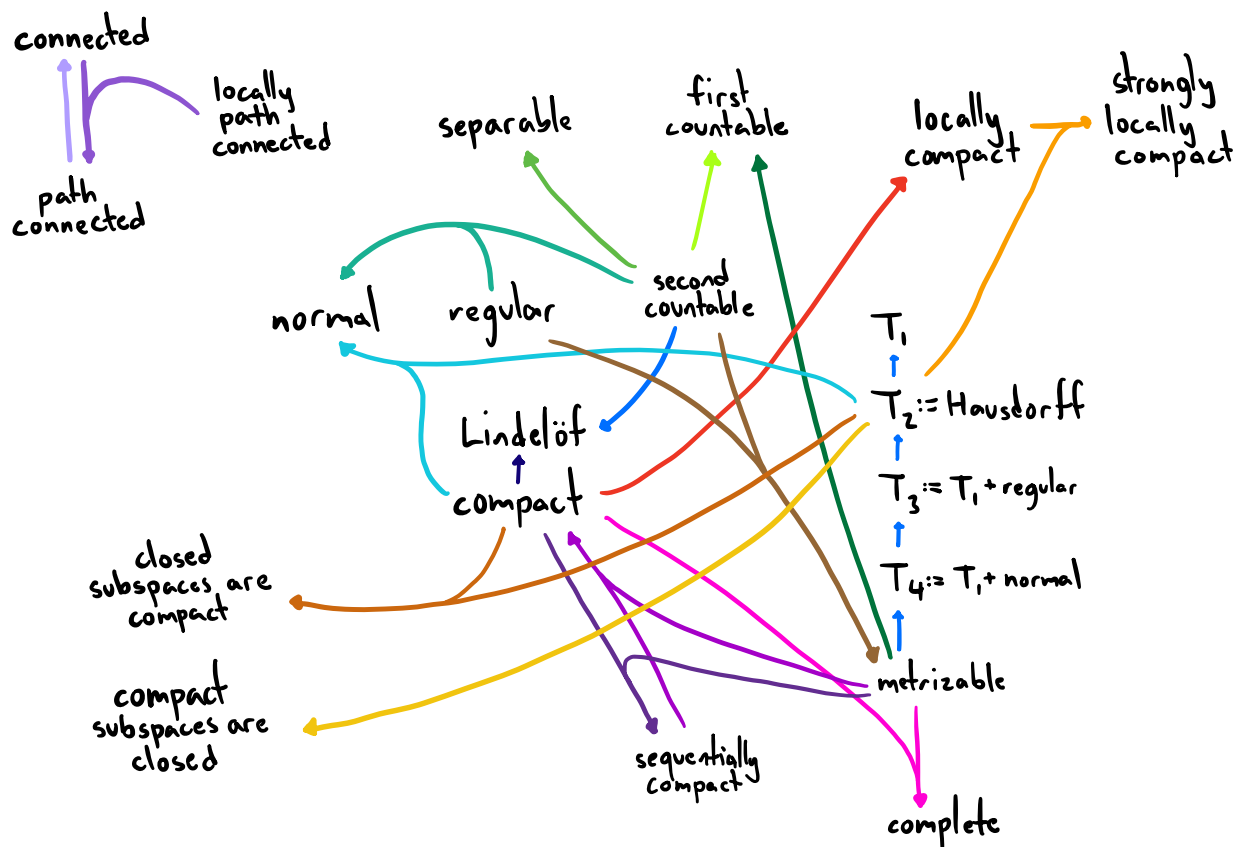


## IMPLICATIONS:



## TOPOLOGY EXAMPLES:

- $\mathbb{R}^n$
- discrete, trivial
- Zariski
- lower limit
- countable complement, finite complement
- topologist's sine
- product, box, uniform

## INVOLVED THEOREMS:

- If  $X$  metrizable, then  $\text{compact} \Leftrightarrow \text{sequentially compact}$ .
- Metric spaces are  $T_4$ .
- If  $X$  second countable, regular, then  $X$  is metrizable.
- If  $X$  normal,  $A \cap B = \emptyset$ , then  $\exists$  continuous  $f: X \rightarrow [0, 1]$  st  $f|_A = 0, f|_B = 1$ .
- If  $X_\alpha$  are all compact, then  $\prod_{\alpha \in I} X_\alpha$  is compact in the product top.
- An open set in  $\mathbb{R}^n$  is connected iff it is path-connected