How many examples do you know of named topologies?

- discrete
- indiscrete
- initial segment
- final segment
- cofinite or finite-closed
- inverse image (or pullback) topology

Some new concepts from Exercises 1.3

#5 T_0 spaces (open sets weakly separate points)

#3 T_1 spaces (points are closed)

#5(iii) Sierpiński space (two-point space with a topology that is neither discrete nor indiscrete)
[named for Wacław Sierpiński (1882–1969), a famous Polish mathematician]

#6 countable-closed topology

#7 intersection of topologies

#9 door spaces (every subset is either open or closed or both)

#10 saturated sets (intersections of open sets)

Assignment due next class

- Read section 2.1 in the textbook (about the Euclidean topology).
- Write a group solution to your problem.