MAT8021, Algebraic Topology

Assignment 10

Due in-class on Friday, April 28

Numbered exercises are from Lee's "Introduction to topological manifolds," second edition.

1. Problem 11-17.
2. Problem 11-19.
3. Let X be a Hausdorff space with a universal covering space $\widetilde{X}$. If $\widetilde{X}$ is compact, show that $\pi_1(X)$ is finite.
4. With the same assumptions as in the last question, show that the converse is true as well.