

## TOPOLOGY 2 - HOMEWORK 9

- (1) Prove that  $RP^2$  is homeomorphic to  $I^2/(s, 0) \sim (1 - s, 1), (0, t) \sim (1, 1 - t) \forall s, t \in I$ .
- (2) Describe a  $\Delta$ -complex structure for and compute the simplicial homology of the Klein bottle,  $X = I^2/(s, 0) \sim (1 - s, 1), (0, t) \sim (1, t) \forall s, t \in I$ .
- (3) Hatcher, Section 2.1, Exercise 11.