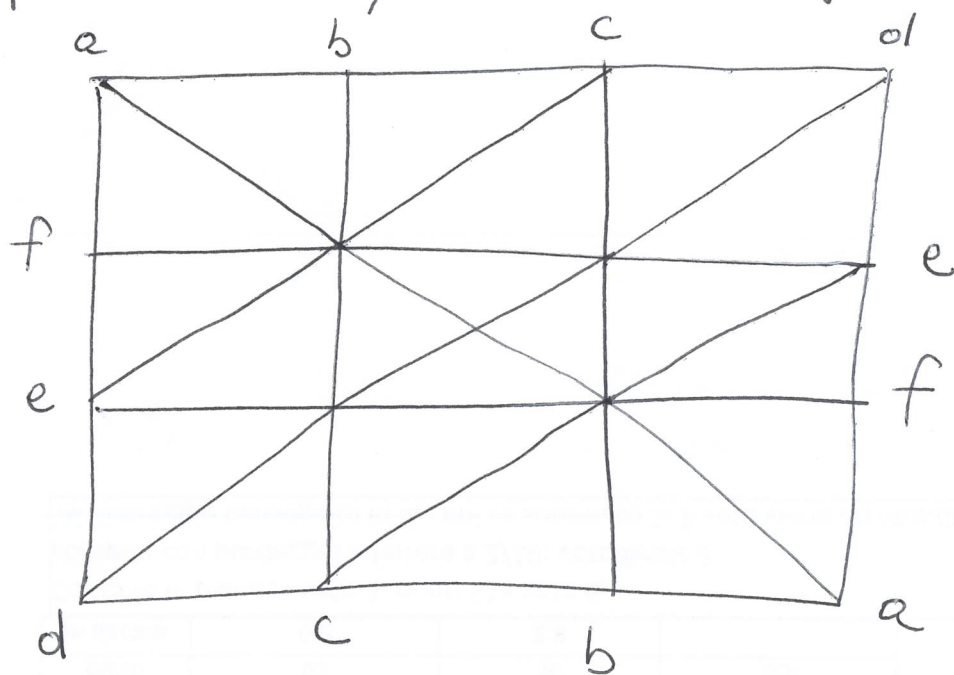


Homework 3

Exercise 1

Let K be the simplicial complex represented by the following scheme:



where vertices and 1-simplices in the boundary are identified if they are labelled by the same letters.

1. Prove that $H_1(K) \cong \mathbb{Z}_2$ and $H_2(K) = 0$.

2. What surface is homeomorphic to $|K|$?