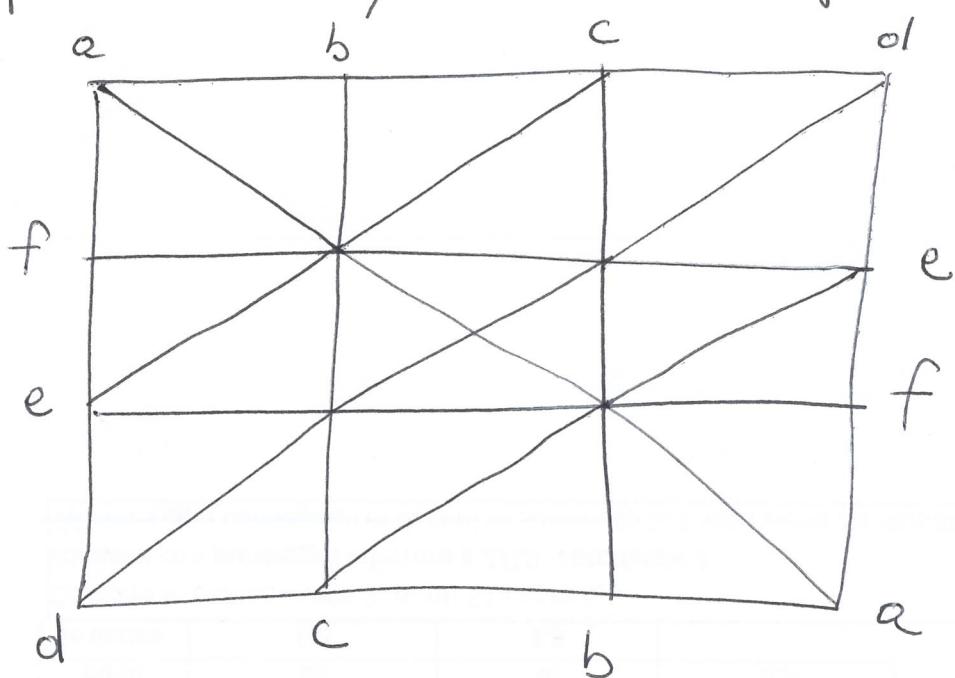


Exercise 1

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 $|K|$?