HOMEWORK 4 DUE FEBRUARY 28TH BY 5PM

Please remember to write down your name and your Stanford ID number (9 digits). All pages refer to Hatcher's book. You may use any results in the book up to and including section 2.A.

1. (8 marks) Compute the homology groups of the space X obtained from Δ^n by identifying all faces of the same dimension in the following way: $[v_0, \ldots, \hat{v}_j, \ldots, v_n]$ is identified with $[v_0, \ldots, \hat{v}_k, \ldots, v_n]$ by sending each vertex to the vertex in the other simplex that occupies the same place in the ordering $\{v_0, \ldots, \hat{v}_k, \ldots, v_n\}$ and then extending this map by linearity.

2. (12 marks) Exercise 17, page 132.

3. (10 marks) Exercise 29, page 133.

4. (8 marks) Exercise 3, page 155.

5. (12 marks) Exercises 9a,c, page 156.

6. (10 marks) Exercise 36, page 158.