

MA 331 HW 25

- (1) A draft of your blog essay is due by **Monday, November 24**. It should be on the WordPress site. Be sure the setting on it is “Private”.
- (2) Read Section IV.1 of Edelsbrunner and Harer. Pay particular attention to the definition of chains and boundary map. Give less time to the definition of homology group (we’ll spend most of class on that.)
- (3) (*) Let I be the unit interval, thought of as a simplicial complex with two vertices and one edge.
 - (a) What are the 0-chains and 1-chains? (Your answer for each should be of the form $(\mathbb{Z}/2\mathbb{Z})^n$ for some integer n .)
 - (b) Explain why the boundary of a 0-chain is the empty set.
 - (c) Which 1-chains have non-empty boundary? (i.e. which 1-chains σ have $\partial_1(\sigma) \neq 0$?).