Homework 10

Due: May 1

1. Compute the groups $H_i(\mathbb{RP}^m \times \mathbb{RP}^n; G)$ for $G = \mathbb{Z}$ and $\mathbb{Z}_2$.
2. Calculate $H^n(T^3; \mathbb{Z})$ of 3-torus. For any map $\alpha : T^3 \to T^3$ calculate the induced maps $\alpha^\star : H^n(T^3; \mathbb{Z}) \to H^n(T^3; \mathbb{Z})$ for $n > 1$ in terms of matrix for $\alpha^\star : H^1(T^3; \mathbb{Z}) \to H^1(T^3; \mathbb{Z})$.
3. Hatcher 3.2.3 (p. 229)
4. Hatcher 3.2.7 (p. 229)
5. Hatcher 3.2.11 (p. 229)