# MATH 636 SPRING 2024
# HOMEWORK 2
# DUE APRIL 15, 2024

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**Required problems**:
(1) Hatcher 3.3.2 (p. 257).
(2) Hatcher 3.3.6 (p. 257). (Hint: consider the quotient map $M_1 \# M_2 \to M_1 \vee M_2$, not the Mayer-Vietoris sequence; if you use the Mayer-Vietoris sequence, I think you'll need problem 3.3.31, which will be on the homework next week.)
(3) Hatcher 3.3.8 (p. 257). (The definition of degree is given in problem 3.3.7.)
(4) Hatcher 3.3.10 (p. 257). (You may assume problem 3.3.9.)

**Optional problems**:
Some good qual-level problems:
   • Hatcher 3.3.3, 3.3.4, 3.3.5, 3.3.7, 3.3.9, 3.3.11, 3.3.20.
Some more problems to think about but not turn in:
   • Hatcher 3.3.12, 3.3.13, 3.3.16, 3.3.18, 3.3.17.

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