

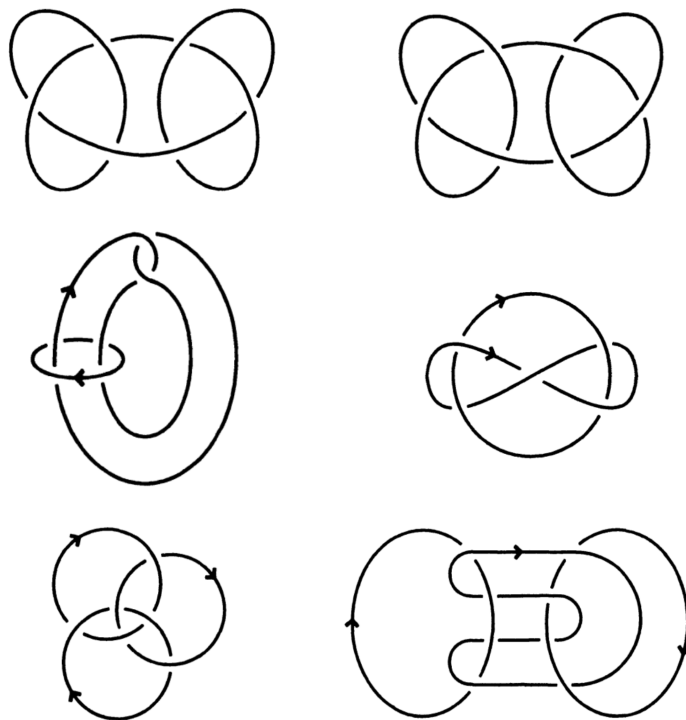
# Algebraic Invariants in Knot Theory

## Practicals 1

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4 October 2022, Prague

**Exercise 1 (2.2.3 rev).** Determine the code for the following knots (the square knot, the granny knot, the Whitehead link, and the Borromean rings).



**Exercise 2 (2.2.1).** Show that if all the signs in a given code agree, then it is a code of an alternating diagram; show that the converse also holds.

**Exercise 3 (2.2.2).** Suppose a sequence  $(a_1, \dots, a_n)$  is a code for a knot  $K$ . Show that the same sequence can be a code for the mirror image of  $K$ .

**Exercise 4 (2.2.5).** Show that there cannot exist a knot with code  $(8, 10, 2, 4, 6)$ .