## Übungsblatt 3 - QIV I

Exercises 2.27, 2.28, 2.29, 2.30, 2.32, 2.33, 2.37, 2.38, 2.47 from Chapter 2 of the Nielsen-Chuang.

## Additionally:

- 2.51: Verify that the Hadamard gate is unitary.
- 2.52: Veriy that  $H^2 = I$ .
- 2.53: What are the eigenvalues and eigenvectors of *H*?