Exercises

Exercise 1. Show that the quantum dimensions satisfy

$$d_a d_b = \sum_c N_{ab}^c \, d_c \,. \tag{5.23}$$

Use this to show that our definition of quantum dimension as expectation value of a loop agrees with the definition of quantum dimension d_a as the largest eigenvalue of the matrix $[N_a]_c^b$.

Exercise 2. Check explicitly at the level of partition function that gauging the dual symmetry recovers the original theory.