CSCI-B490: Quantum Programming
Homework 8 (Partial)
Due: Thur, Apr 9

Exercise 1. (*10 points*) (Submit this exercise either as a pdf or a Jupyter notebook.)

1. Finish verifying the implementation of `swap` presented in lecture notes from March 31.
2. Verify the implementation of `cnot` presented in lecture notes from March 31.

Exercise 2. (*15 points*) (Submit this exercise as a Jupyter notebook.) Run the attached Jupyter notebook `hw8-deutsch.ipynb`. Create a similar notebook in which you analyze Deutsch-Josza for $n = 2$. (That, is the function implemented by the oracle takes a 2-bit input and outputs one bit.) You need not implement every possible oracle: choose two balanced functions and two constant functions.