Homework 8

1. (50 pints) Show that CNOT gate is its own inverse

2. (100 points) Show that Toffoli gate is its own inverse and also is a
universal gate.
   - How to use Toffoli gate to make a fan – out?

3. (150 points) Show that Fredkin gate is its own inverse and also is a
universal gate.
   - How to use Fredkin gate to make a fan – out
   - Create NAND using Fredkin and CNOT gates.