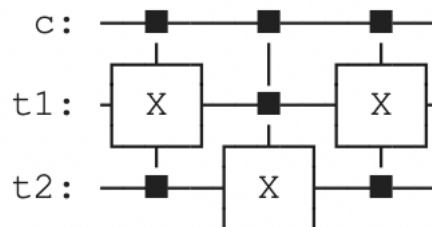Quantum Symphony

Assignment-1

Q-4. Below is the designed gate, I have put 3 toffoli gates to make a controlled-swap gate with C as control qubit:

C	T1	T2	Output T1	Output T2
1	0	0	0	0
1	0	1	1	0
1	1	0	0	1
1	1	1	1	1

Above is the truth table for the same.

Q-5. is submitted in the code file