SUM GATE

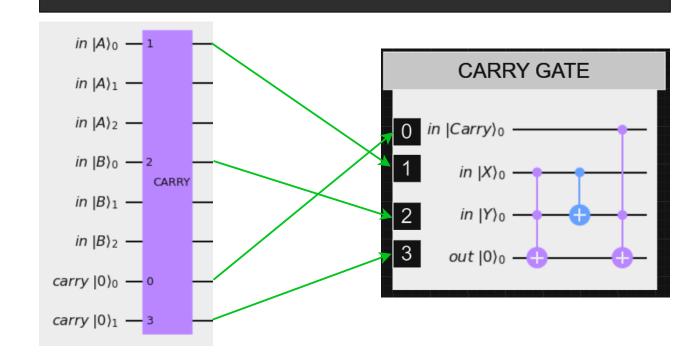
CARRY GATE

in $|X\rangle_0$ in $|Y\rangle_0$ -

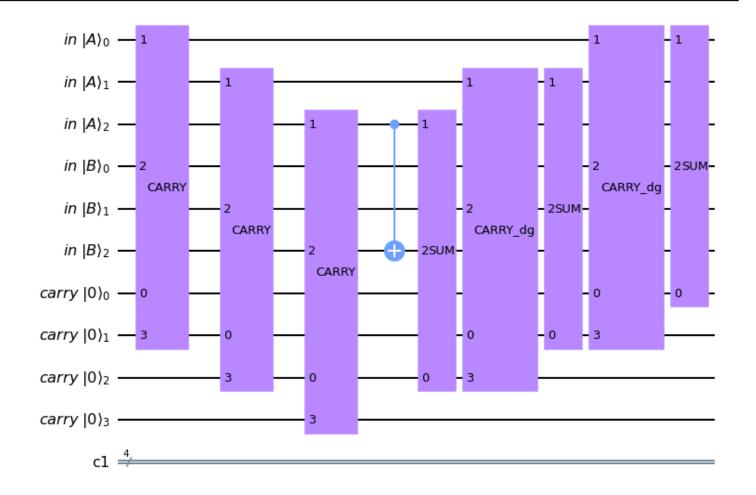
2 out SUM |0\0

- in |Carry\0
- in $|X\rangle_0$ in $|Y\rangle_0$
- 3 out $|0\rangle_0$

- Qubits going to gates in FULL CIRCUIT correspond by number to in-gate operations
- CARRY_dg is CARRY, but with the gates applied in reverse-order
- Bit-Count is VARIABLE in our program, so these gates must be applied through loops.



FULL CIRCUIT



Source: https://github.com/JAllsop/Quantum-Full-Adder/blob/master/ELEN4022_Lab_2_2021.ipynb