## Example: N qubit state tomography

First, we need operations which generally acting on N qubits (q1,q2,q3…), so we need two loops.

For tomo\_idx in range(3\*\*N):

For q\_idx in range(N):

q\_tomo = qlist[q\_idx]

gate\_idx = (tomo\_idx//(3\*\*(q\_idx+1)))%(3\*\*(q\_idx)

q\_tomo.add\_gate(gates[gate\_idx])

Mathtips: transform tomo\_idx into 3-digit as, like 0212, then the operation is I,Y/2,X/2,Y/2.

Notion: qlist[N-1-q\_idx] is set as we prefer denote qlist as (q1,q2,q3) and the digit system is from right to left.