Cirq Documentation

- An open source framework for programming quantum computers by Google Cirq is a Python software library for writing, manipulating, and optimizing quantum circuits, and then running them on quantum computers and quantum simulators.

- Cirq provides useful abstractions for dealing with today's noisy intermediate-scale quantum computers (NISQC).

Qubits - is the basic unit of quantum information, a quantum bit: a two level system that can exist in superposition of those two possible states.

Qubit Types :

cirq.NamedQubit - an abstract qubit that only has a name, nothing else. Use this when you don't need anything else and you don't need to create too many qubits in bulk.

cirq.LineQubit - a qubit that is identified by an integer index in a line. Some devices have lines of qubits, LineQubit can be useful to represent that. Also cirq.LineQubit.range(3) is a very easy way to create 3 qubits.

cirq.GridQubit - a qubit that is placed on a grid and is identified by the 2D coordinates. Most of Google's chips are represented using GridQubits.