QuIC Script
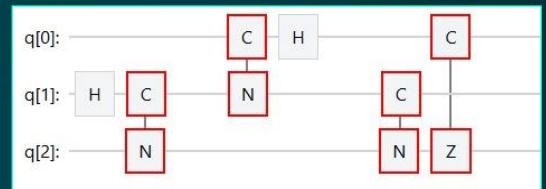
Quantum-in-a-browser

What is QuIC Script ?

It is a 20-qubit quantum program simulator & visualizer that runs within your browser

What Can I Use It For?

- Use QuIC Script to simplify your onboarding process into quantum computing. Focused on quantum gates, the building blocks of quantum algorithms, it offers a straightforward and intuitive quantum programming and execution experience that doesn't require in-depth knowledge of quantum computing or any programming language syntax. Ideal for quickly testing out and validating quantum concepts and algorithms.

QuIC Script

IHI,ICN,CNI,HII,ICN,CIZ

q[0]:   C   H   C
q[1]: H C   N   C
q[2]:   N   N Z

Key Features

Interactive

- Quick-start approach to learning quantum computing. No installation needed. Just open the browser and start writing quantum circuits. Immediate results (no compilation needed). Supports step-by-step visualization of quantum-state transitions.

Extensible

- Being platform-agnostic makes QuIC Script interoperable with other quantum frameworks, such as IBM Qiskit. It can serve as the foundational compute engine for various applications including courses, lessons, quizzes, or hackathons, and supports the experimentation and creation of new business models.

Standalone

- No usage charges. Software can be run as many times as required. No backend or cloud compute resources needed. No fear of programs being copied, or IP being stolen. No registration to external platforms needed. A flat monthly fee is charged for software support.

QuIC Script would be suitable if you are...

Educational Institutions

- Institutes of Higher Learning with quantum programs can use **QuIC Script** as a teaching tool to introduce students to quantum computing concepts without the need for complex installations or infrastructure.

Getting Started

- Follow our quantum course at https://github.com/pqcee/course-quicscript-secondary/wiki It contains a step-by-step guide on how to run your own quantum course using QuICScript. There you will find all the starter course materials you will need.

Researchers & Quantum Engineers/Developers

- These professionals can use **QuIC Script** to prototype and validate quantum circuits easier and quicker.

Getting Started

- If you are a researcher or quantum software engineer, you can already begin building, testing, and verifying your quantum circuits. Try it out at https://pqcee.github.io/QuICScript/

Specs

Testimonials

> As a Professor at SMU specializing in quantum computing, I greatly appreciated that it ran in a browser and there wasn't any installation required.
> ~ *Prof Paul Griffin*

> As a Postdoctoral Researcher in quantum computing, I have found **QuIC Script** to be a valuable educational tool due to its simplicity.
> ~ *Dr Ștefan-Dan Ciocîrlan*

Technology	Circuit Visualizer/Builder QuIC Script Engine Quantum-state Display
Environment	Javascript (WASM)
Minimum Browser Version	Chrome v125.x Edge v125.x Safari v17.2.x Firefox v126.x
Platform	Desktop and Mobile
Gate Depth	Up to 100,000 gates
Supported Gates	Hadamard (H), Pauli-X (X), Pauli-Y (Y), Pauli-Z (Z), Identity (I), $\pi/2$ Phase shift (P), $\pi/4$ Phase shift (T), Control-Not (CN), Toffoli (C..CN), Swap, and Universal (U) gates
Qubit Count	Up to 20 qubits