Programming frameworks 1: Cirq

Monday, September 20, 2021

Rutgers University

Yipeng Huang

Accessing Rutgers Computer Science iLab

https://resources.cs.rutgers.edu/docs/new-users/getting-started/

ssh netid@ilab1.cs.rutgers.edu

ssh netid@ilab2.cs.rutgers.edu

ssh netid@ilab3.cs.rutgers.edu

ssh netid@ilab4.cs.rutgers.edu

By default, you will be doing work from this home directory:

cd /common/home/netid/

See https://resources.cs.rutgers.edu/docs/file-storage/storage-technology-options/

Activate CS Dept.'s new Python infrastructure

- https://resources.cs.rutgers.edu/docs/using-python-on-cs-linux-machines/

export PATH="$PATH:/koko/system/anaconda/bin"

source activate python39

which python3

Cloning Google Cirq

https://github.com/quantumlib/Cirq

Optional: fork if you want to hack and contribute to Cirq:

https://docs.github.com/en/free-pro-team@latest/github/getting-started-with-github/fork-a-repo

git clone git@github.com:quantumlib/Cirq.git

cd Cirq

Install Google Cirq

https://quantumai.google/cirq/install#installing_on_linux

python -m pip install --upgrade pip

python -m pip install cirq

python -c 'import cirq; print(cirq.google.Foxtail)'

Great! Now we can simulate quantum circuits

cd examples/

python hello_qubit.py

See effect of single H|1>

See effect of HH|1>