

# LaTeX Circuits

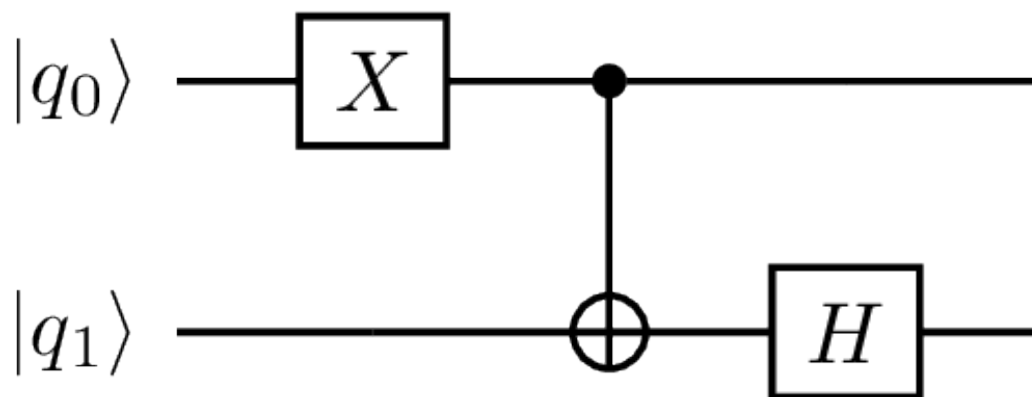
October 23, 2019

```
[1]: from pyquil.gates import *  
      from pyquil.quil import Program  
      from pyquil.latex import to_latex, display
```

```
[2]: prog = Program("X 0\n CNOT 0 1\n H 1")  
      print(to_latex(prog))  
      display(prog)
```

```
\documentclass[convert={density=300,outext=.png}]{standalone}  
\usepackage[margin=1in]{geometry}  
\usepackage{tikz}  
\usetikzlibrary{quantikz}  
\begin{document}  
\begin{tikzcd}  
\lstick{\ket{q_{0}}}& \gate{X} & \ctrl{1} & \qw & \qw \\  
\lstick{\ket{q_{1}}}& & \targ{} & \gate{H} & \qw  
\end{tikzcd}  
\end{document}
```

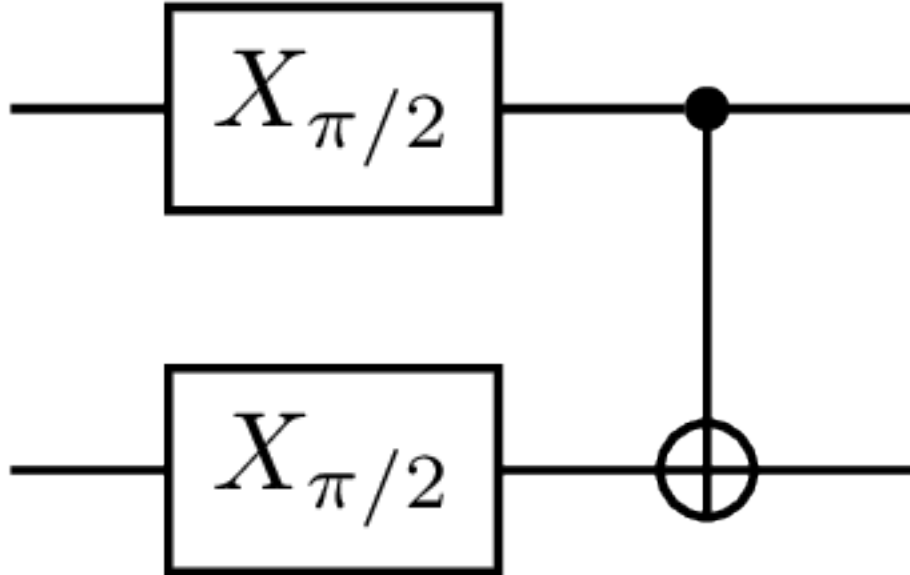
[2]:



```
[3]: from pyquil.latex import DiagramSettings  
  
prog = Program("RX(pi/2) 0\n RX(pi/2) 1\n CNOT 0 1")
```

```
settings = DiagramSettings(label_qubit_lines=False,
    ↳abbreviate_controlled_rotations=True)
display(prog, settings, width=300)
```

[3]:



```
[4]: prog = Program("""H 1
CNOT 2 1
DAGGER T 1
CNOT 0 1
T 1
CNOT 2 1
PRAGMA LATEX_GATE_GROUP "cool gates"
DAGGER T 1
CNOT 0 1
SWAP 0 1
T 0
PRAGMA END_LATEX_GATE_GROUP
DAGGER T 2
CNOT 1 2
H 0
DAGGER T 2
CNOT 1 2
T 0
S 2
""")
display(prog)
```

[4]:

