Entanglement

October 18, 2024

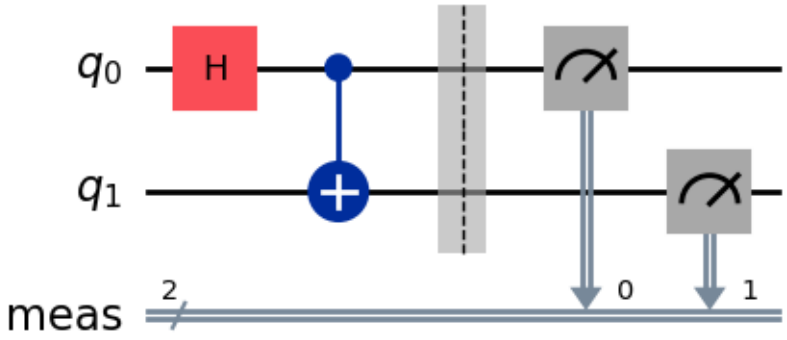
1 Entanglement

[ ]:
```
from qiskit import QuantumCircuit, transpile
from qiskit.visualization import plot_histogram, plot_bloch_multivector
from qiskit_aer import AerSimulator
```

1.0.1 Quantum Circtuit measured having 2 qubits and two gates including hadamard gate and then CNOT gate

[16]:
```
qc = QuantumCircuit(2)
qc.h(0)
qc.cx(0,1)
qc.measure_all()
qc.draw('mpl')
```

[16]:



1.0.2 Simulate the circuit with qubits in entangelement and plot the measured qubits

[15]:
```
sim = AerSimulator()
qc_transpiled = transpile(qc)
job = sim.run(qc_transpiled)
results = job.result()
```

```
counts = results.get_counts()
print(counts)
plot_histogram(counts)
```

```
{'00': 492, '11': 532}
```

[15]: