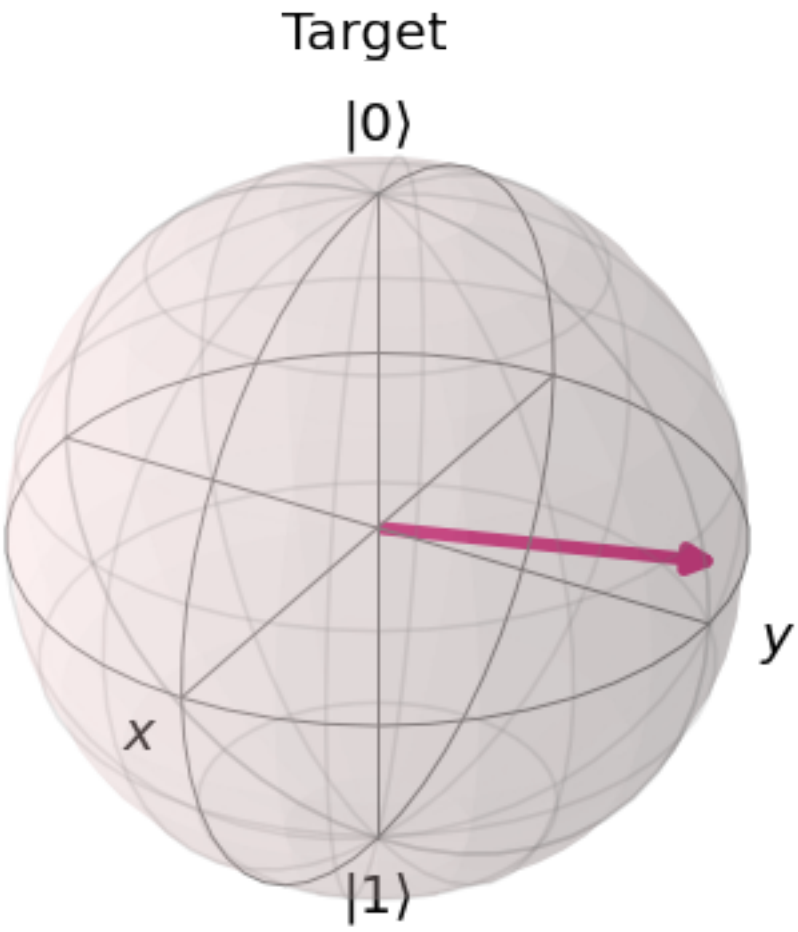
Trabalho_qiskit

September 11, 2021

[1]:
```
import numpy as np
import math
from qiskit import *

from qiskit import(
  QuantumCircuit,
  execute,
  Aer)

from qiskit.visualization import plot_bloch_vector
from qiskit.visualization import plot_histogram

%matplotlib inline

bloch_vector = [math.sin(math.pi*0.57)*math.cos((8/11)*math.pi), math.sin(math.
 ↪pi*0.57)*math.sin((8/11)*math.pi), math.cos(math.pi*0.57)]
plot_bloch_vector(bloch_vector, title= "Target")
```

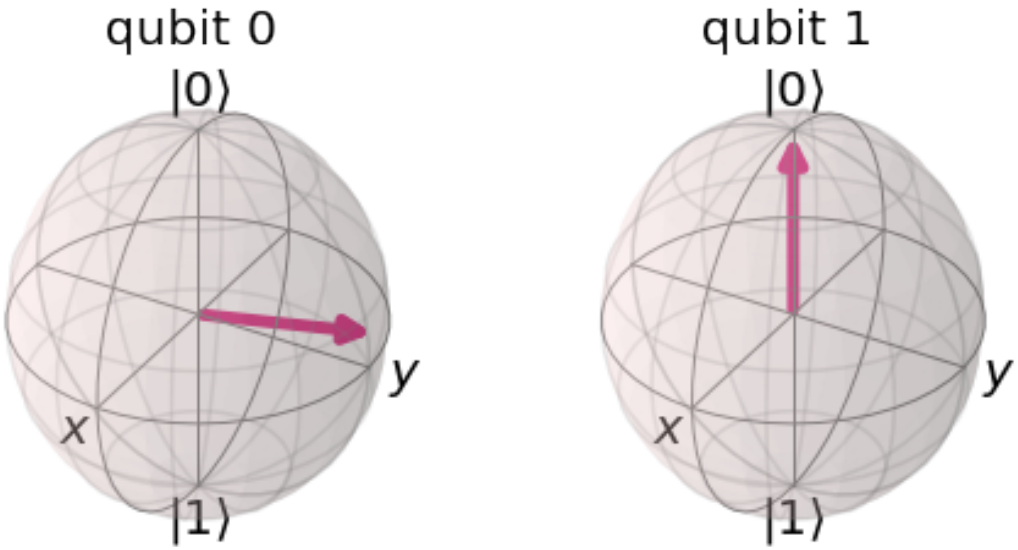
[1]:



[5]:
```
import math
from qiskit.tools.visualization import plot_bloch_multivector
circuit = QuantumCircuit(2,2)

circuit.ry(math.pi*0.57,0)
circuit.rz((8/11)*math.pi,0)

#circuit.x(1)
#circuit.ry(math.pi*0.57,1)
#circuit.rz((8/11)*math.pi,1)


simulator =Aer.get_backend('statevector_simulator')
result =execute(circuit,simulator).result()
statevector =result.get_statevector()
```

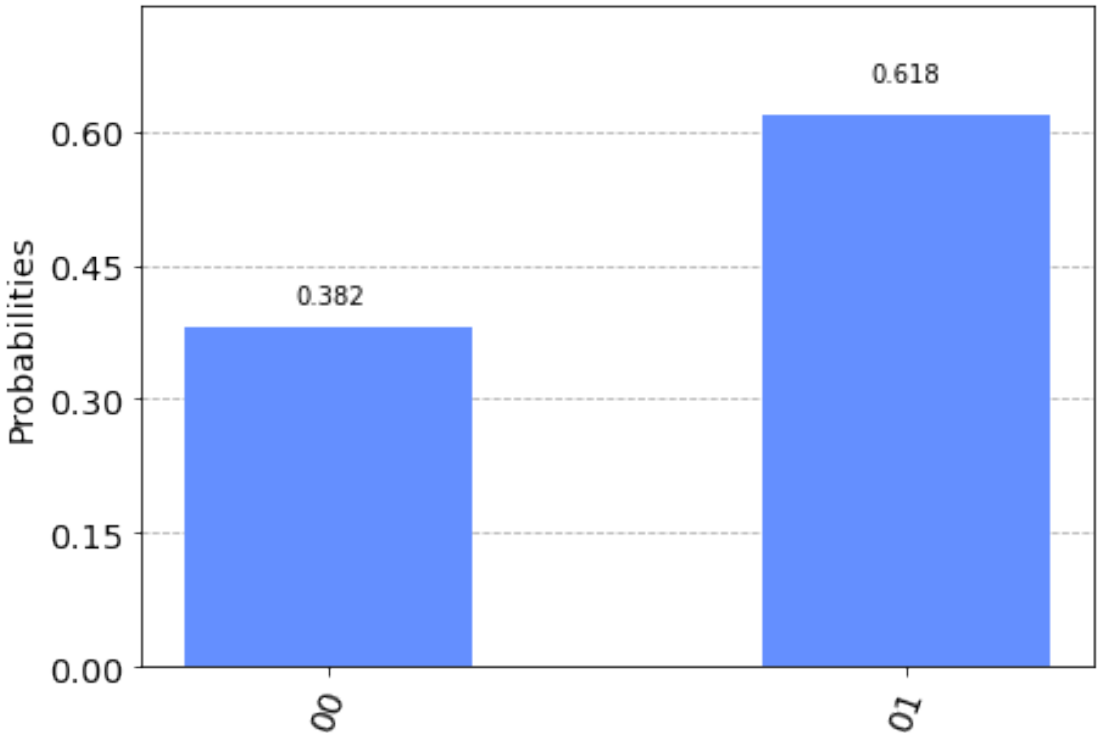
```
plot_bloch_multivector(statevector)
```

[5]:



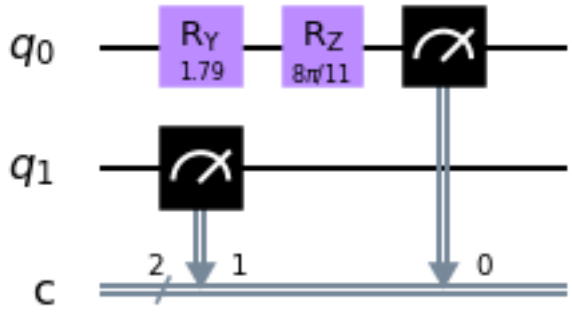
[6]:
```
circuit.measure([0,1], [0,1])

backend = Aer.get_backend('qasm_simulator')
result2 = execute(circuit,backend,shots=10000).result()
counts = result2.get_counts()
from qiskit.tools.visualization import plot_histogram
plot_histogram(counts)
```

[6]:



[7]:
```
circuit.draw(output='mpl')
```

[7]:



[20]:
```
circuit = QuantumCircuit(2,2)

#circuit.ry(math.pi*0.57,0)
#circuit.rz((8/11)*math.pi,0)
```

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circuit.ry(math.pi*0.57,1)
circuit.rz((8/11)*math.pi,1)


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statevector =result.get_statevector()
plot_bloch_multivector(statevector)
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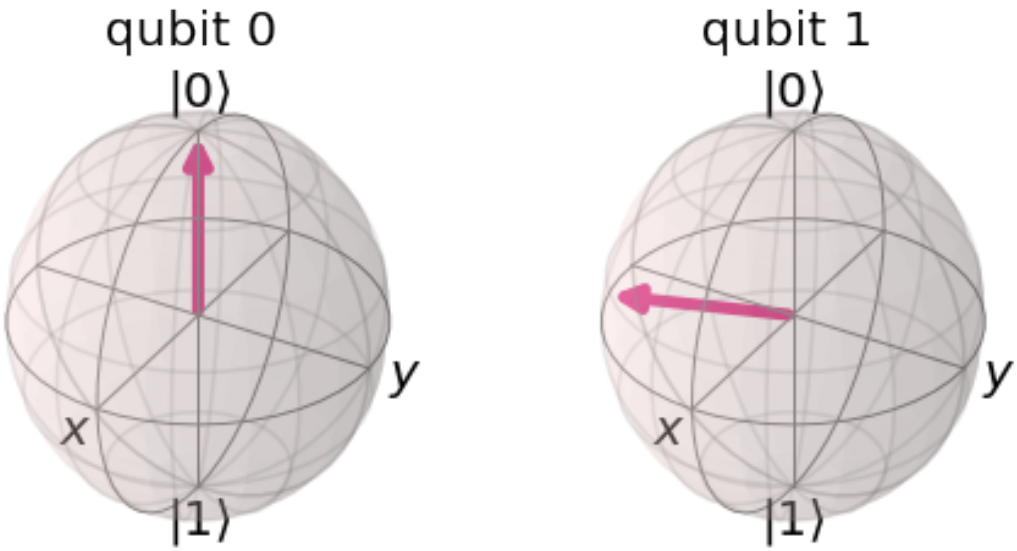
[20]:



[15]:

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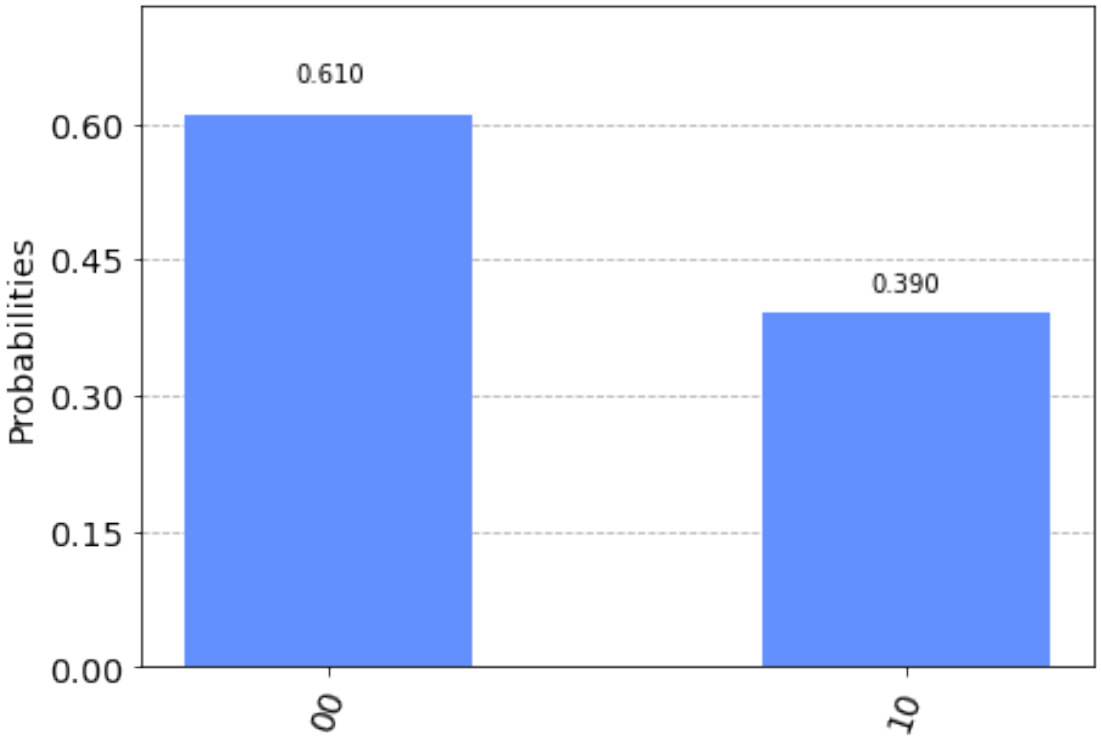
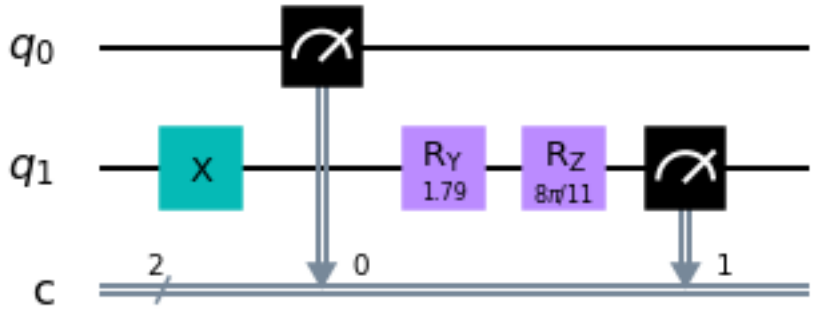
result2 = execute(circuit,backend,shots=10000).result()
counts = result2.get_counts()
from qiskit.tools.visualization import plot_histogram
plot_histogram(counts)
```

[15]:



[16]:
```
circuit.draw(output='mpl')
```

[16]:



[17]:
```
circuit = QuantumCircuit(2,2)

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circuit.rz((8/11)*math.pi,0)
```

```
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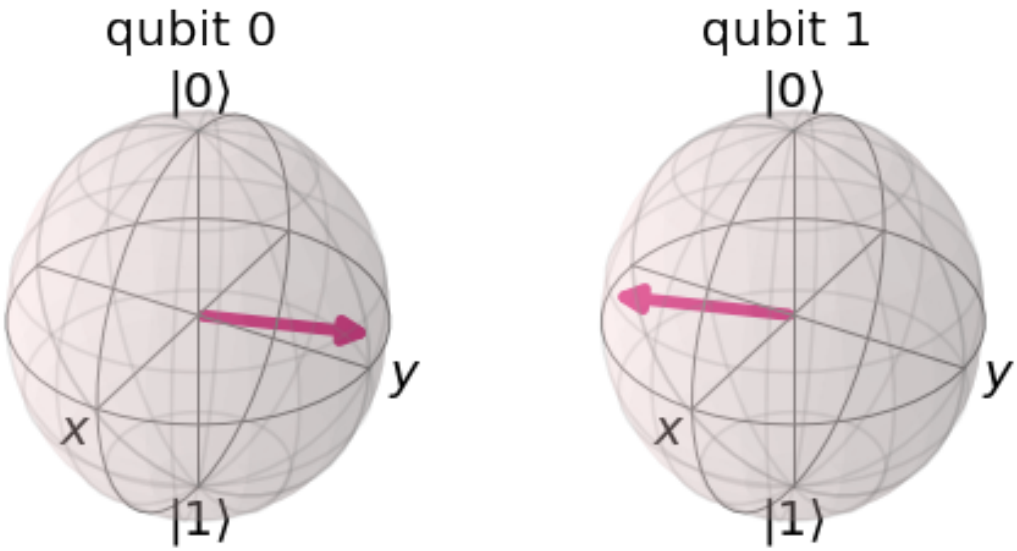
circuit.ry(math.pi*0.57,1)
circuit.rz((8/11)*math.pi,1)


simulator =Aer.get_backend('statevector_simulator')
result =execute(circuit,simulator).result()
statevector =result.get_statevector()
plot_bloch_multivector(statevector)
```

[17]:



[18]:

```
circuit.measure([0,1], [0,1])

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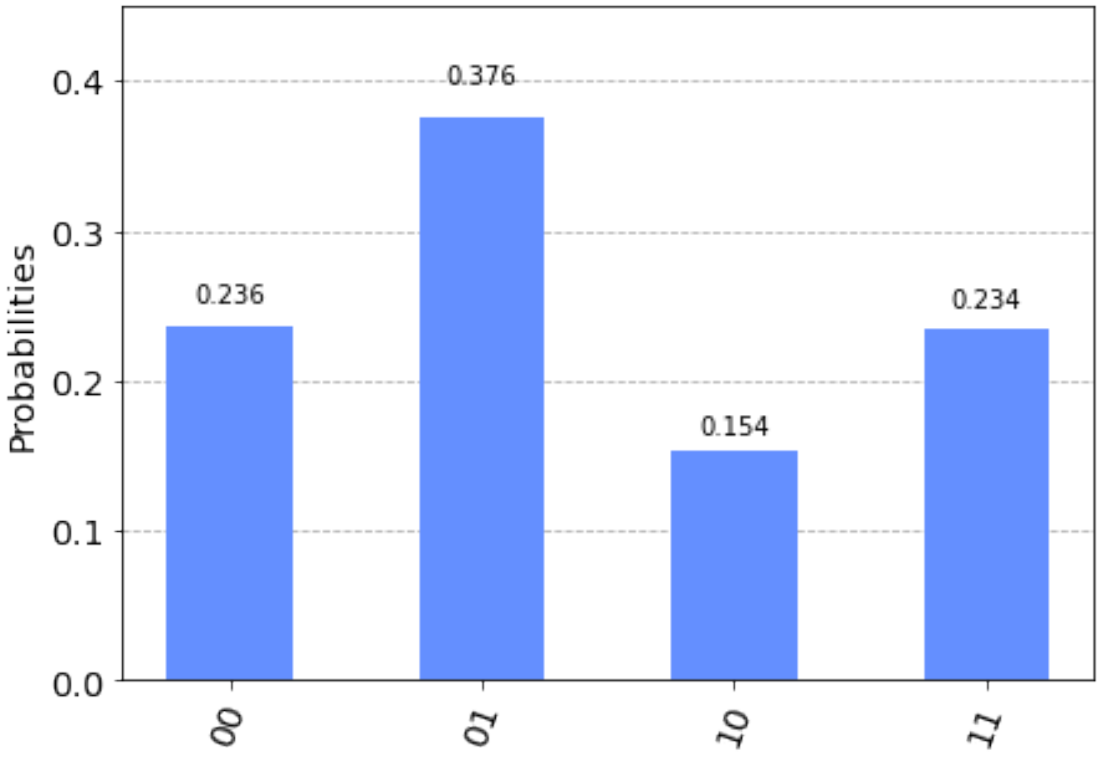
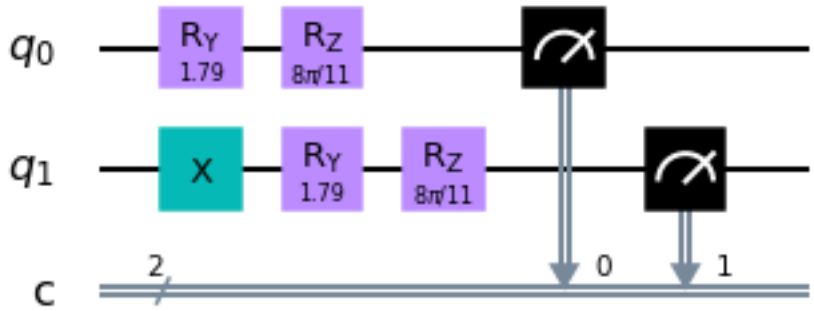
result2 = execute(circuit,backend,shots=10000).result()
counts = result2.get_counts()
from qiskit.tools.visualization import plot_histogram
plot_histogram(counts)
```

[18]:



[19]:
```
circuit.draw(output='mpl')
```

[19]:



[ ]:
```

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