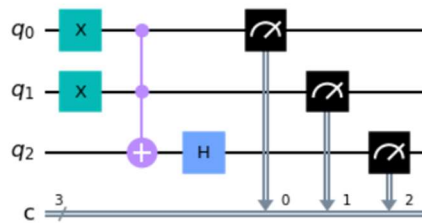


Sample Exam Image Questions Part 2

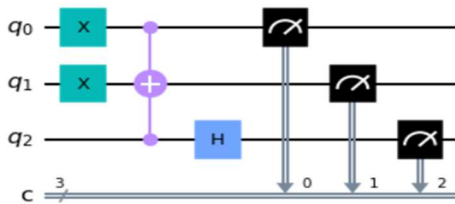
1) Which of the given circuits below represents the given QASM code below?

```
OPENQASM 2.0;
include "qelib1.inc";
qreg q[3];
creg c[3];
x q[0];
x q[1];
ccx q[0],q[2],q[1];
h q[2];
measure q[0] -> c[0];
measure q[1] -> c[1];
measure q[2] -> c[2];
```

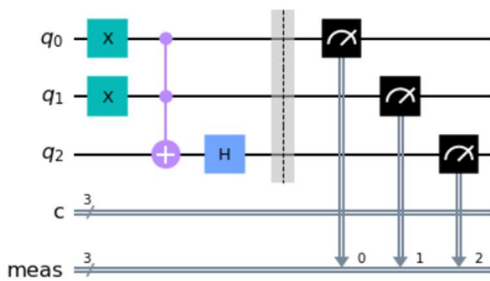
a)



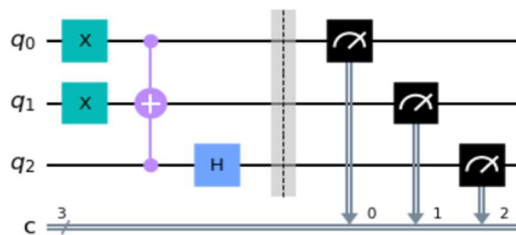
b)



c)



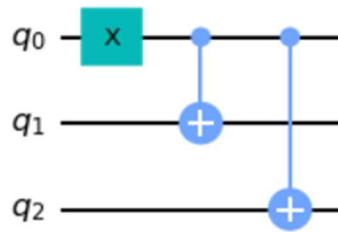
d)



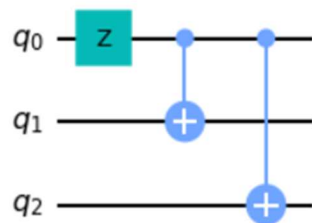
2) Given the statevector of the GHZ state, Choose the circuit that represents the given state.

$$\begin{bmatrix} 0.70710678+0.j & 0. & +0.j & 0. & +0.j & 0. & +0.j \\ 0. & +0.j & 0. & +0.j & 0. & +0.j & 0.70710678+0.j \end{bmatrix}$$

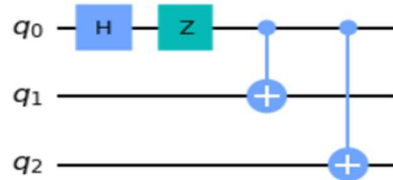
a)



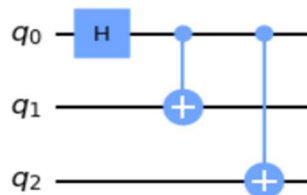
b)



c)



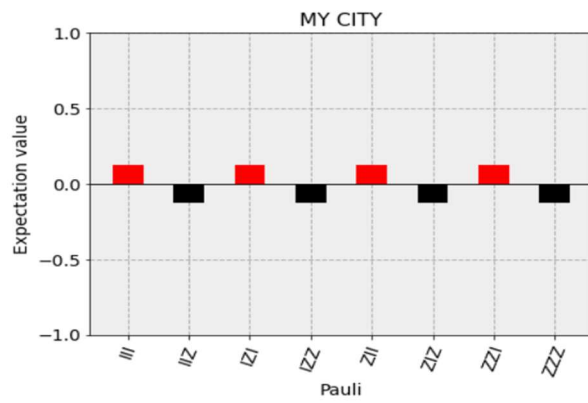
d)



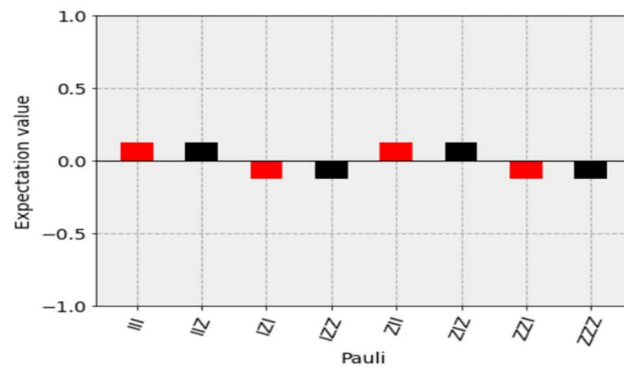
3) Which of the following images will the given code result when it is executed?

```
qc = QuantumCircuit(3)
qc.x(0)
qc.y(1)
qc.cx(0,1)
qc.ccx(0,1,2)
backend = Aer.get_backend('statevector_simulator')
result = execute(qc, backend).result()
output = result.get_statevector()
plot_state_paulivec(output, title = 'MY CITY', color = ['red','green'])
```

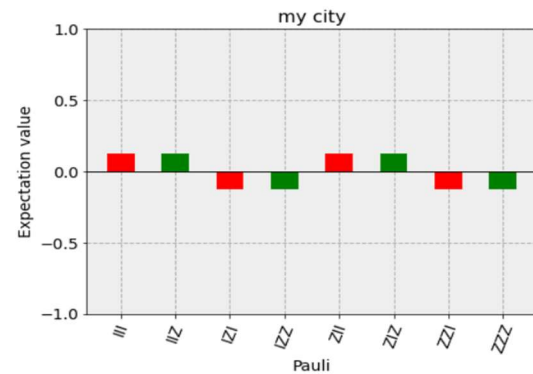
a)



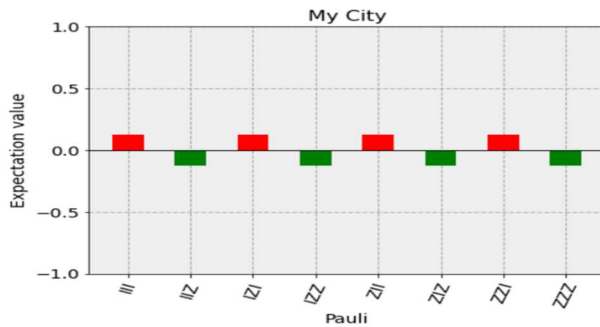
b)



c)



d)

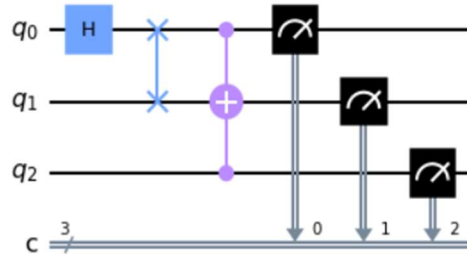


4) Given two code fragments, what would be the output image after adding the code fragments given below?

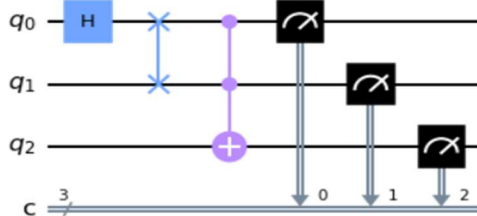
```
qc1 = QuantumCircuit(3,3)
qc1.h(0)
qc1.swap(0,1)
qc1.ccx(0,2,1)
```

```
qc2 = QuantumCircuit(3,3)
for i in range(3):
    qc2.measure(i,i-1)
```

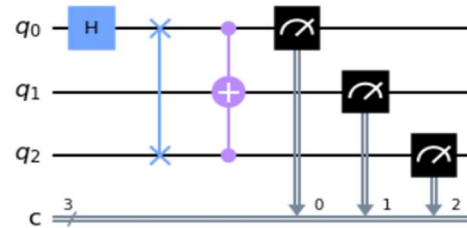
a)



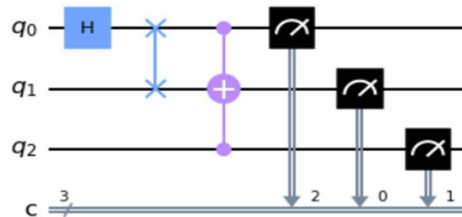
b)



c)



d)

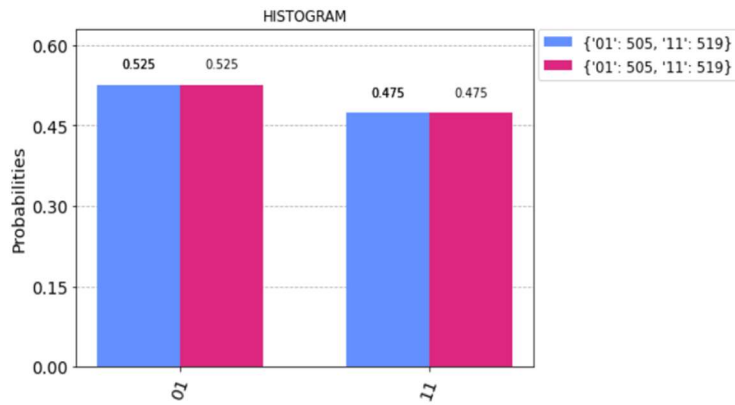


5) Which of the following options would match the output when the given code is executed.

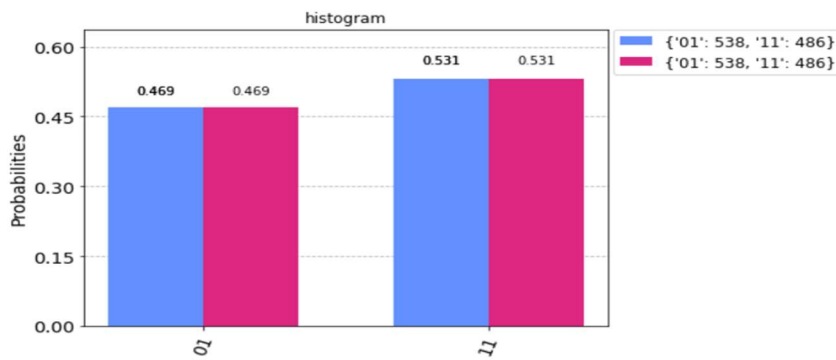
```
qc = QuantumCircuit(2,2)
qc.x(0)
qc.cx(1,0)
qc.h(1)
qc.measure(range(2),range(2))
legend = counts1, counts2
backend = Aer.get_backend('qasm_simulator')
result = execute(qc, backend).result()
```

```
counts1 = result.get_counts()
counts2 = result.get_counts()
plot_histogram([counts1, counts2], legend=legend, title = 'HISTOGRAM')
```

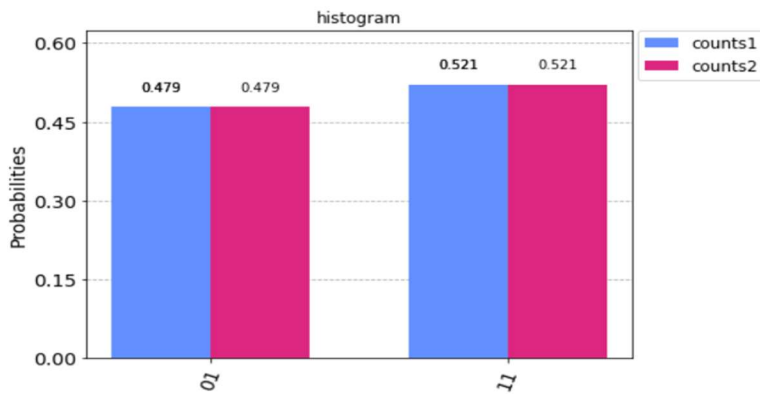
a)



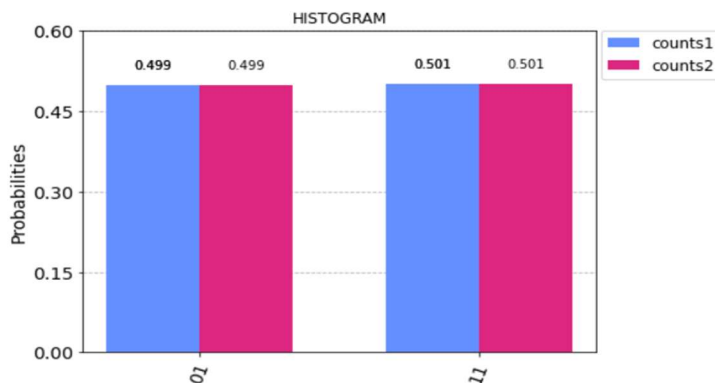
b)



c)



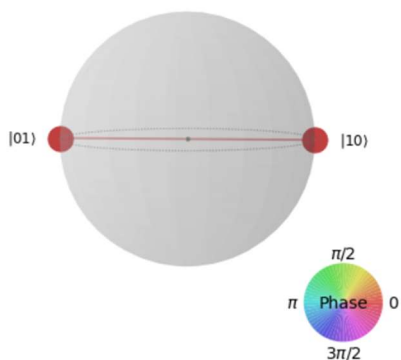
d)



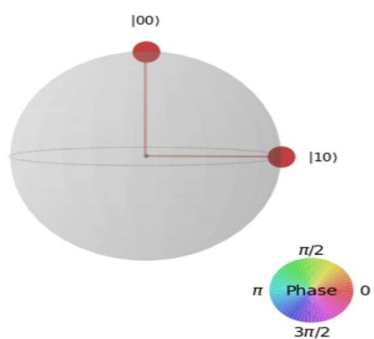
6) When the given code is executed and its qsphere is drawn, choose which qsphere among the following options represent the output.

```
qc = QuantumCircuit(2,2)
qc.h(0)
qc.cx(0,1)
qc.cx(1,0)
```

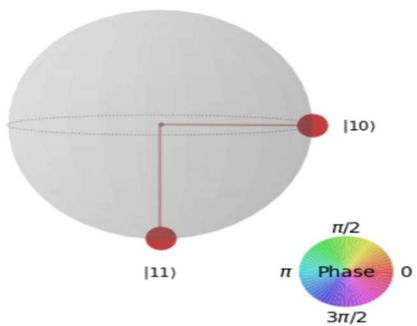
a)



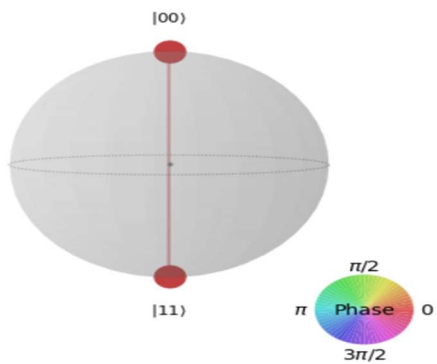
b)



c)



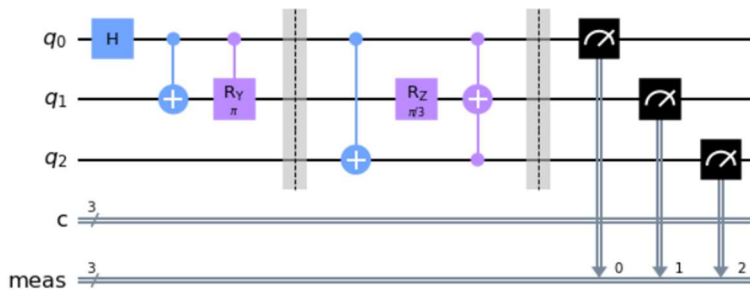
d)



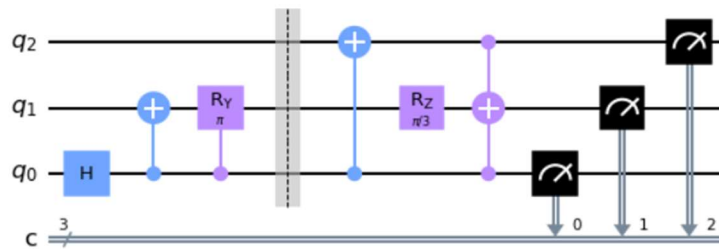
7) Which of the following options represents the output image, when the code given below is executed?

```
qc = QuantumCircuit(3,3)
qc.h(0)
qc.cx(0,1)
qc.cry(pi,0,1)
qc.barrier()
qc.cx(0,2)
qc.rz(pi/3,1)
qc.ccx(0,2,1)
qc.measure_all()
qc.draw('mpl', scale=1, reverse_bits=True)
```

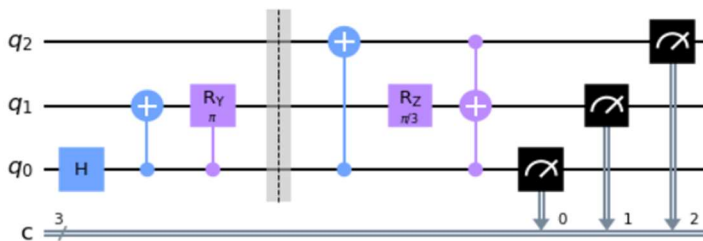
a)



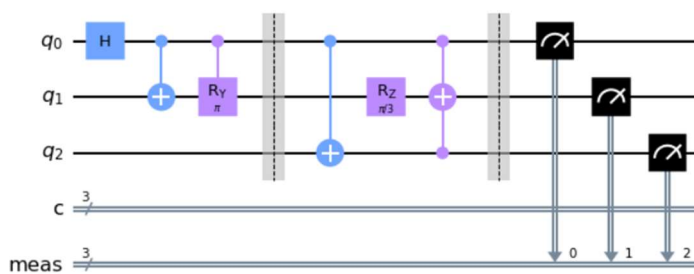
b)



c)



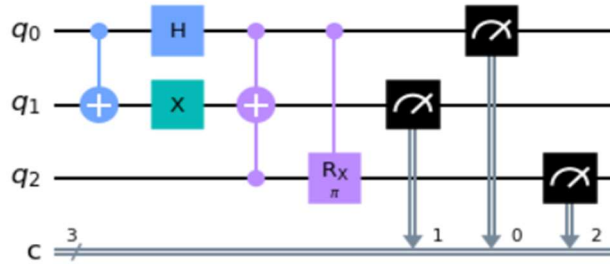
d)



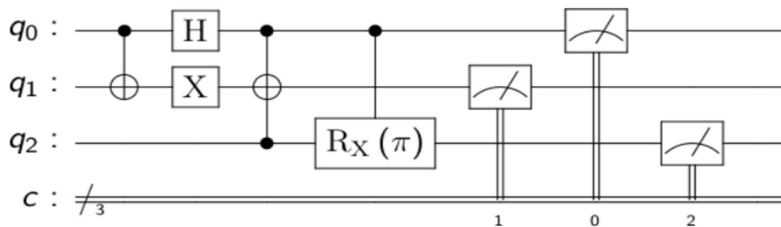
8) When the given code is executed, which one of the following options given below perfectly matches the output?

```
qc = QuantumCircuit(3,3)
qc.cx(0,1)
qc.h(0)
qc.x(1)
qc.ccx(0,2,1)
qc.crx(pi,0,2)
qc.measure(range(3),range(3))
qc.draw('text')
```

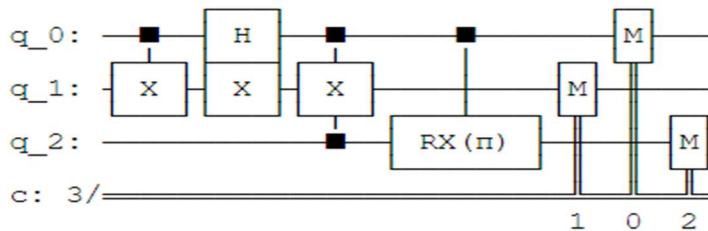
a)



b)



c)

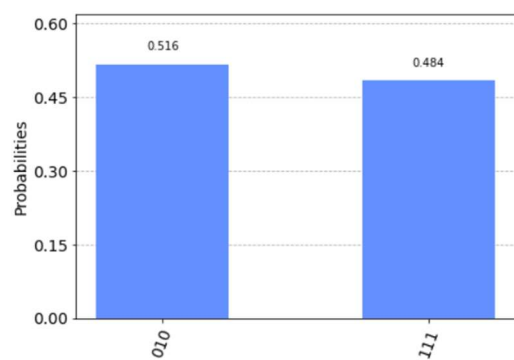


d) None of the above

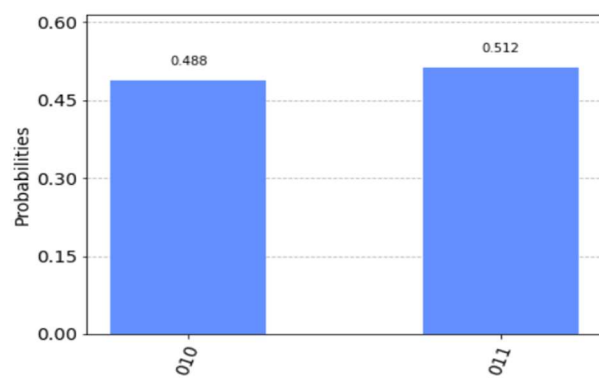
9) When the given code is executed, which one of the following options matches the output?

```
qc = QuantumCircuit(3,3)
qc.h(0)
qc.x(1)
qc.ccx(0,2,1)
qc.measure(range(3),range(3))
backend = Aer.get_backend('qasm_simulator')
result = execute(qc, backend).result()
counts = result.get_counts()
plot_histogram(counts)
```

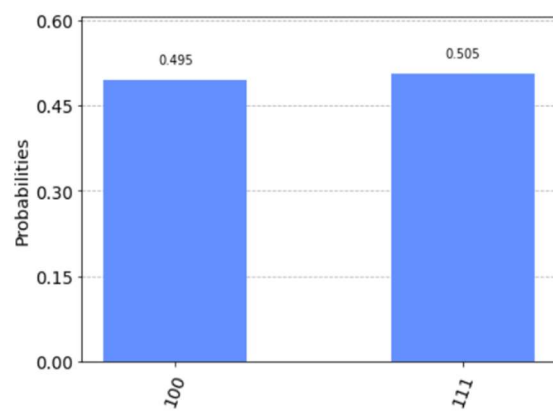
a)



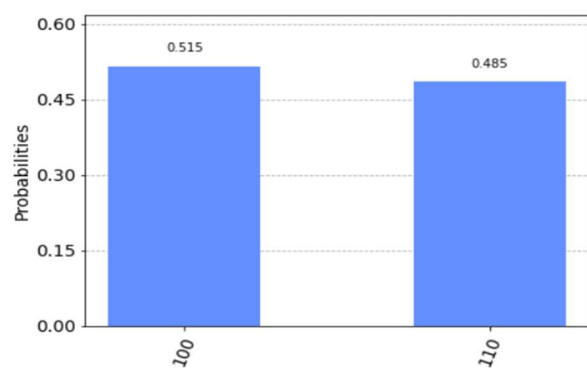
b)



c)

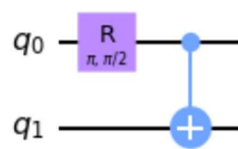
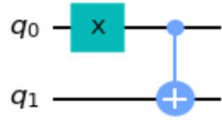


d)

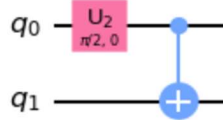
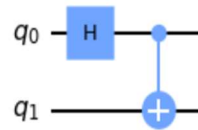


10) In which one of the given options does the left-hand image match the right-hand image?

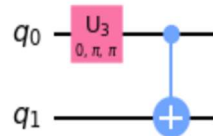
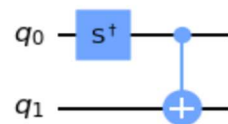
a)



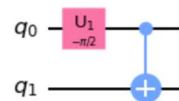
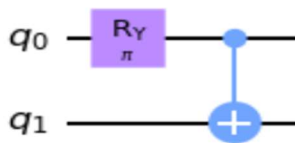
b)



c)



d)



Answers

- 1 B
- 2 D
- 3 D
- 4 D
- 5 A
- 6 B
- 7 B
- 8 C
- 9 B
- 10 C