In [1]:
```
from qiskit import *
from qiskit.tools.visualization import plot_histogram
%matplotlib inline
```

In [2]:
```
secretNumber = '100010101'
```

In [3]:
```
circuit = QuantumCircuit(len(secretNumber)+1,len(secretNumber))
```

We need to calculate the length of the secretnumber as above. Also we need to reverse the secret number in their range for index so as gates are applied appropriately. There are couple of ways to reverse one

1. as enumerate [::-1] as
2. for index, one in enumerate(reversed(secretNumber))

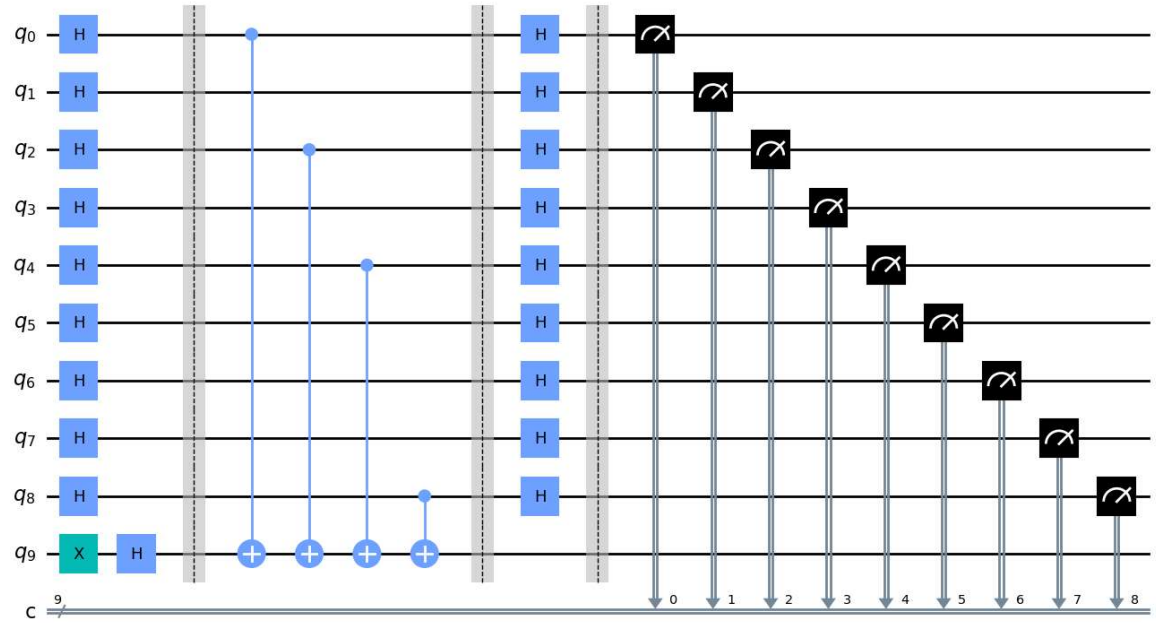
In [4]:
```
circuit.h(range(len(secretNumber)))
circuit.x(len(secretNumber))
circuit.h(len(secretNumber))
circuit.barrier()
for index, one in enumerate(secretNumber[::-1]):
    print(f"index{index} is {one}")
    if one == "1":
        circuit.cx(index,len(secretNumber))
circuit.barrier()
circuit.h(range(len(secretNumber)))
circuit.barrier()
circuit.measure (range(len(secretNumber)),range(len(secretNumber)))
```

```
index0 is 1
index1 is 0
index2 is 1
index3 is 0
index4 is 1
index5 is 0
index6 is 0
index7 is 0
index8 is 1
```

Out[4]:
```
<qiskit.circuit.instructionset.InstructionSet at 0x189829b5f30>
```

In [5]:
```
circuit.draw(output='mpl')
```

Out[5]:



In [6]:
```
simulator= Aer.get_backend('qasm_simulator')
result = execute(circuit, backend=simulator, shots=1).result()
counts = result.get_counts()
print(counts)
```

```
{'100010101': 1}
```

In [1]:
```
plot_histogram([counts])
```

```
---------------------------------------------------------------------------
NameError                                 Traceback (most recent call last)
Cell In[1], line 1
----> 1 plot_histogram([counts])

NameError: name 'plot_histogram' is not defined
```

Above whether you give one shot or 1024 shots in qasm simulator you get the same