

In [1]:

```
import numpy as np

# Importing standard Qiskit libraries
from qiskit import QuantumCircuit, transpile, Aer, IBMQ
from qiskit.tools.jupyter import *
from qiskit.visualization import *
from ibm_quantum_widgets import *
from qiskit.providers.aer import QasmSimulator

# Loading your IBM Quantum account(s)
provider = IBMQ.load_account()
```

In [22]:

```
from qiskit import*
qr=QuantumRegister(4,'q')
cr=ClassicalRegister(3,'c')
a=QuantumCircuit(qr,cr)
for i in range(3):
    a.h(qr[i])
a.x(qr[3])
a.h(qr[3])
a.ccx(qr[0],qr[1],qr[3])
a.ccx(qr[1],qr[2],qr[3])
a.ccx(qr[0],qr[2],qr[3])
for i in range(3):
    a.h(qr[i])
for j in range(3):
    a.measure(qr[j],cr[j])
backend=Aer.get_backend('qasm_simulator')
qjob=execute(a,backend)
counts=qjob.result().get_counts()
print(counts)
a.draw()
```

```
{'111': 245, '100': 282, '010': 259, '001': 238}
```

Out[22]:

