from qiskit import QuantumCircuit, execute, Aer

def advanced\_quills\_algorithm():

"""

Function Docstring

Executes the Advanced Quill's Algorithm using Qiskit and returns the result.

This function creates a quantum circuit, applies gates, and measures the qubits.

"""

# Create a quantum circuit with 2 qubits

qc = QuantumCircuit(2)

# Apply a Hadamard gate to the first qubit

qc.h(0)

# Apply a CNOT gate

qc.cx(0, 1)

# Measure the qubits

qc.measure\_all()

# Execute the circuit on a quantum simulator

simulator = Aer.get\_backend('qasm\_simulator')

execution\_result = execute(qc, simulator, shots=1).result() # Rename to avoid conflict

counts = execution\_result.get\_counts(qc)

return counts

# Run Advanced Quill's Algorithm

final\_result = advanced\_quills\_algorithm() # Rename to avoid conflict

print("Result of Advanced Quill's Algorithm:", final\_result)