

Good First Issues in Qiskit-Terra

Tharrmashastha SAPV

Mentor: Luciano Bello

```
from qiskit import QuantumCircuit, execute
from qiskit import Aer, IBMQ
from qiskit.providers.aer.noise import NoiseModel

# Choose a real device to simulate from IBMQ provider
provider = IBMQ.load_account()
backend = provider.get_backend('ibmq_vigo')
coupling_map = backend.configuration().coupling_map

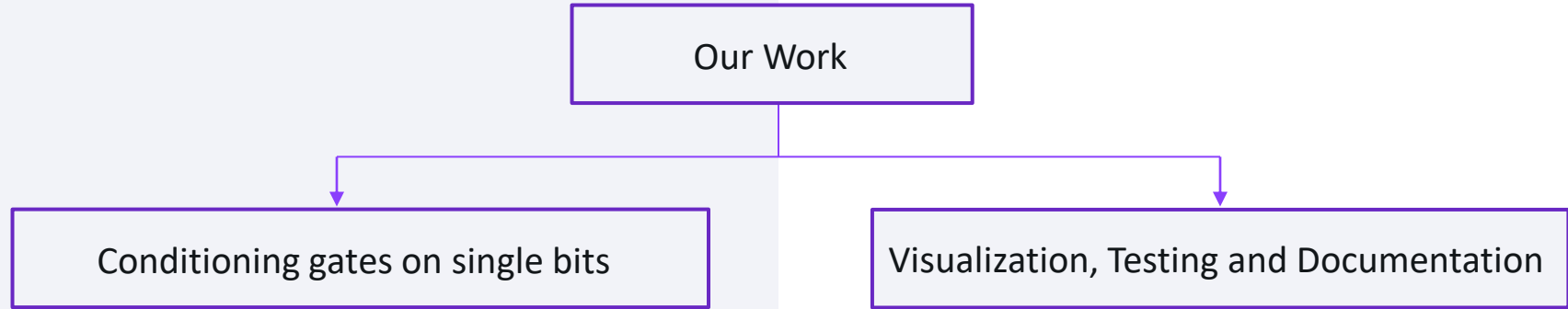
# Generate an Aer noise model for device
noise_model = NoiseModel.from_backend(backend)
basis_gates = noise_model.basis_gates

# Generate 3-qubit GHZ state
num_qubits = 3
circ = QuantumCircuit(3, 3)
circ.h(0)
circ.cx(0, 1)
circ.cx(1, 2)
circ.measure([0, 1, 2], [0, 1, 2])

# Perform noisy simulation
backend = Aer.get_backend('qasm_simulator')
job = execute(circ, backend,
              coupling_map=coupling_map,
              noise_model=noise_model,
              basis_gates=basis_gates)
result = job.result()
print(result.get_counts(0))
```

Goal of the Project

Fix Github issues of Qiskit Terra, as many as possible!



Classical Conditioning of gates on Single Classical Bit (#1160, #6018)

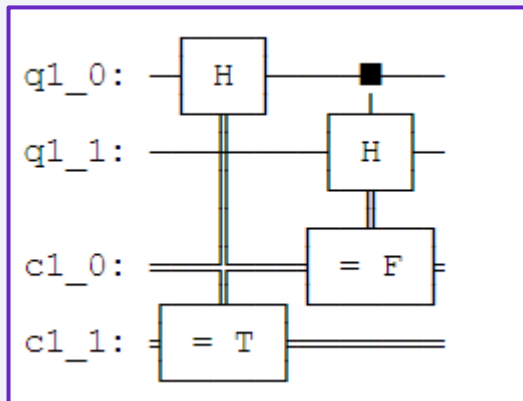
Issues caused (#6475):

- Text, latex and MPL drawers break. (#6261, #6248, #6259)
- circuit_to_dag() method breaks. (#6018)
- qc.qasm() method breaks. (Will update with QASM3.0)
- qc.depth() breaks. (#6476)
- qc.num_connected_components() breaks.
- circuit_to_instruction() breaks.
- assemble and disassemble methods break.
- _check_wires_list() and substitute_node_with_dag() methods of dagcircuit break.
- _is_same_c_conf() method in template matching of optimization breaks.
- run() method of ConsolidateBlocks in optimization breaks.

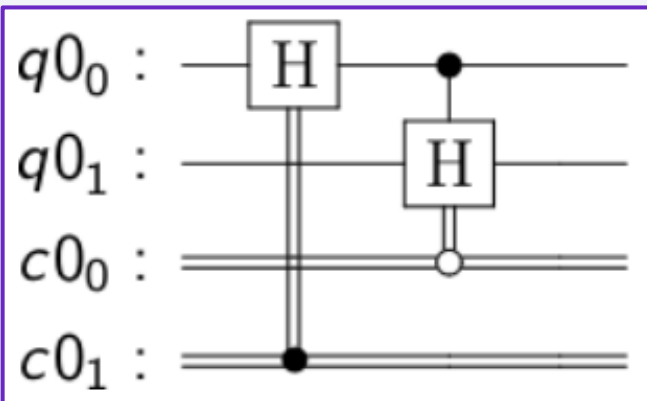
#Red - Issue
#Green - PR
#Blue - To be fixed

Classical Conditioning of gates on Single Classical Bit (#1160, #6018)

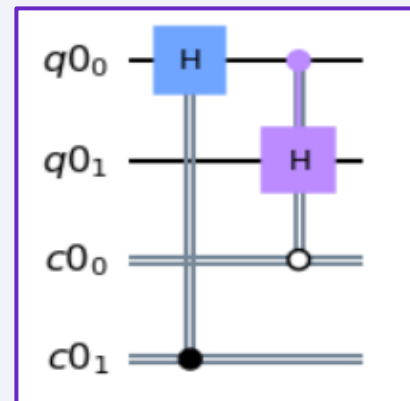
Text(#6261)



Latex(#6248)



MPL(#6259)

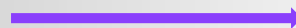
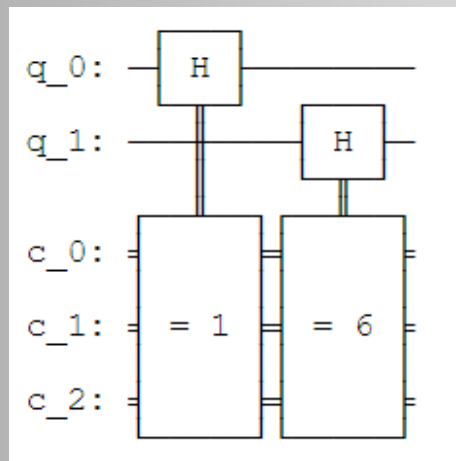


Visualization, Testing and Documentation

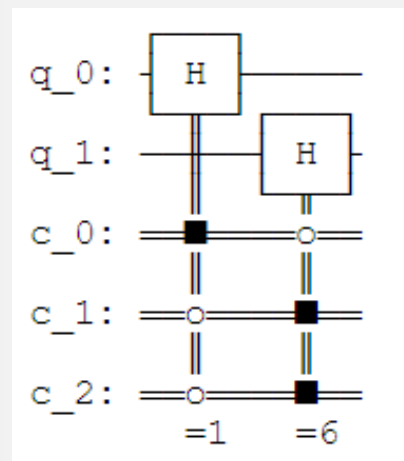
- Inconsistency in drawing classical control in text drawer when cregbundle=False (#6290, #6370)
- The ordering of condition bullets are incorrect when cregbundle=True and reverse_bits=True (#6370)
- Incorrect drawing of custom instructions involving classical bits when using text drawer (#6178, #6242)
- Latex drawer ignores classical bits of custom instructions(#3006, #3202, #6240)
- Active wires of custom instructions unidentifiable in latex drawings (#2092, #6153)
- Incorrect drawing of custom instructions with classical bits when using MPL drawer (#3006, #3201, #6339)
- Testing latex drawer using binder (#6371, #6450)
- Unroller raises unclear error when reaching a node without definition (#5840, #6235)

Visualization, Testing and Documentation :

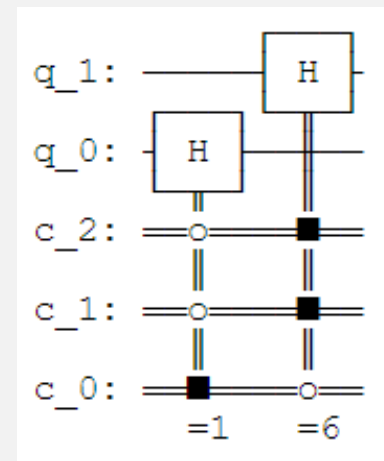
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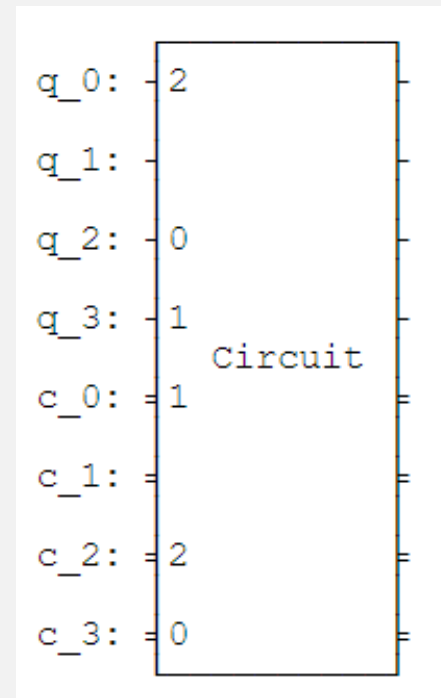
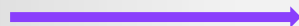
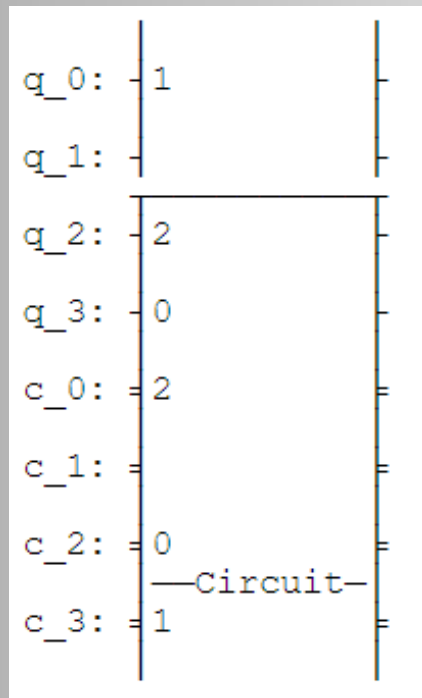
reverse_bits=False



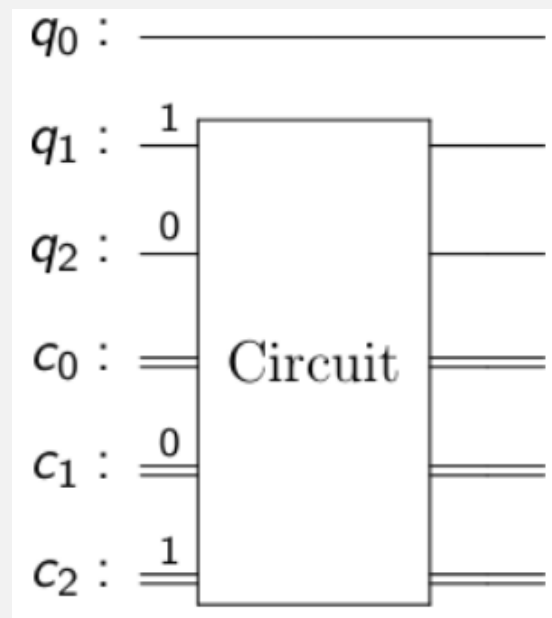
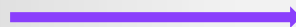
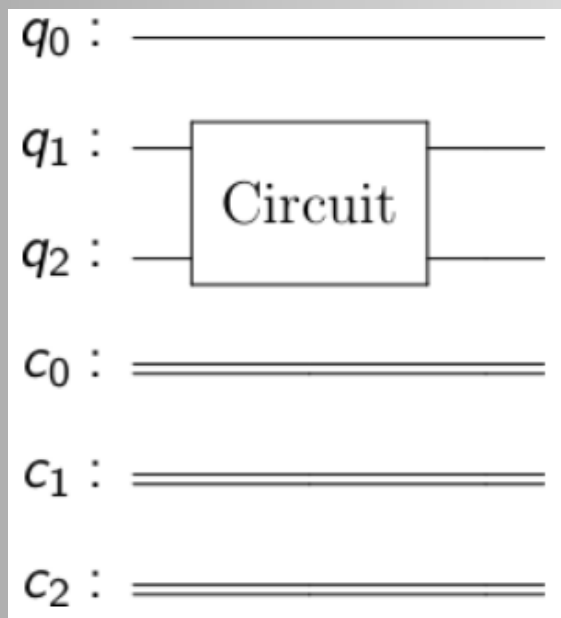
reverse_bits=True



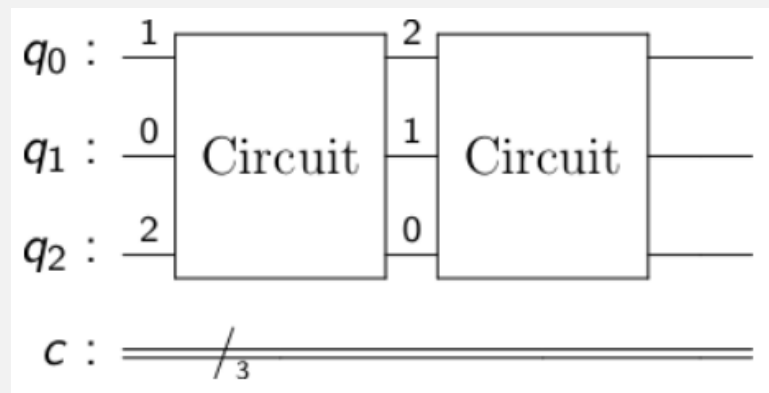
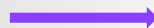
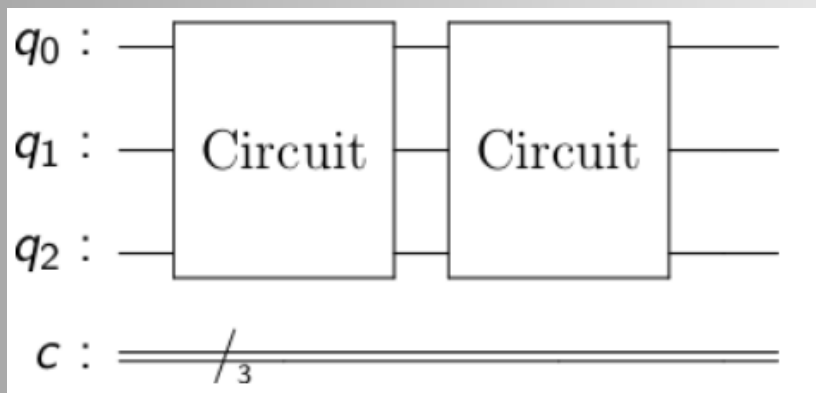
Visualization, Testing and Documentation:
Incorrect drawing of custom instructions involving classical bits when using text drawer
(#6178, #6242)



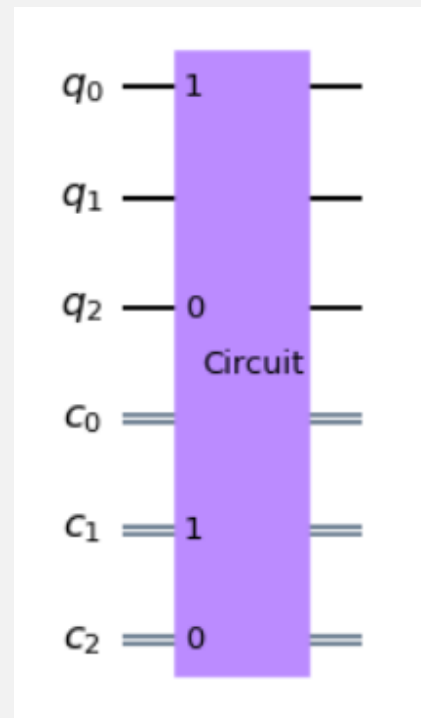
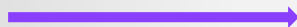
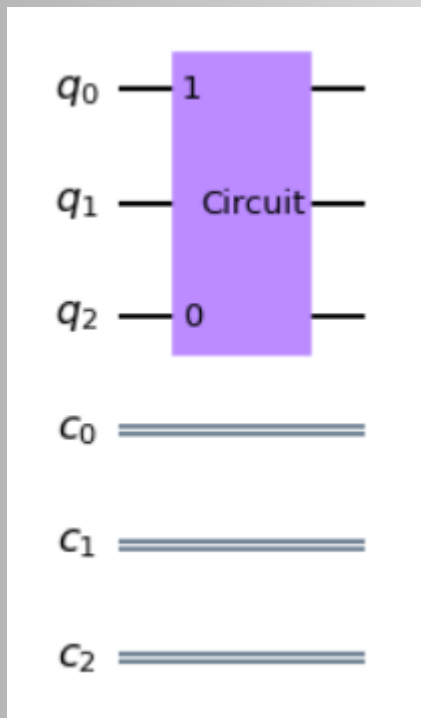
Visualization, Testing and Documentation:
 Latex drawer ignores classical bits of custom instructions(#3006, #3202, #6240)



Visualization, Testing and Documentation:
Active wires of custom instructions unidentifiable in latex drawings (#2092, #6153)



Visualization, Testing and Documentation:
 Incorrect drawing of custom instructions with classical bits when using MPL drawer
 (#3006, #3201, #6339)

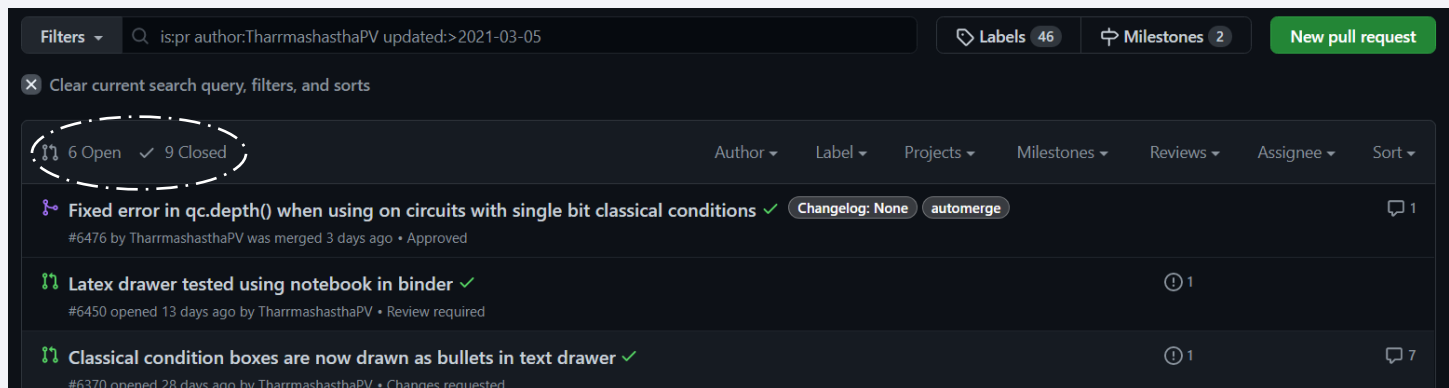


Visualization, Testing and Documentation

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Project Statistics

Total number of issues addresses and/or closed : 15



The screenshot shows the GitHub repository page for TharmashasthaPV. The search bar contains the query "is:pr author:TharmashasthaPV updated:>2021-03-05". The repository has 46 labels and 2 milestones. A green button "New pull request" is visible. The issue list shows 6 Open and 9 Closed issues. The first issue is "Fixed error in qc.depth() when using on circuits with single bit classical conditions" (merged 3 days ago). The second issue is "Latex drawer tested using notebook in binder" (opened 13 days ago, review required). The third issue is "Classical condition boxes are now drawn as bullets in text drawer" (opened 28 days ago, changes requested).

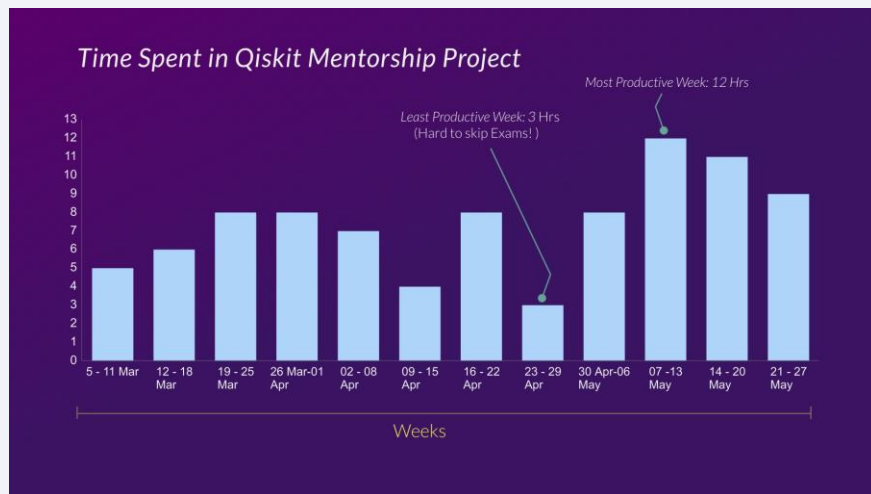
Classical conditioning on single classical bits #1160

 Closed

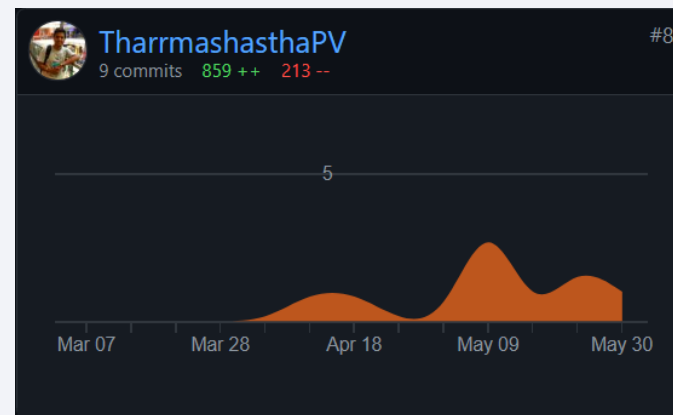
quantumjim opened this issue on Oct 30, 2018 · 9 comments

Project Statistics

Effort in the Project



Pay-off of the Effort





Thank You