

Utils

utils/print_utils.py
Prints formatted outputs

utils/arg_parser.py
Parses command line arguments

Main Executions

main_bilan.py
MainBilan
Executes QRAMCircuitBilan

main_experiments.py
MainExperiments
Executes QRAMCircuitExperiments

main_stress.py
MainStress
Executes QRAMCircuitStress

Classes Inheritance

qramcircuits/qram_circuit_bilan.py
QRAMCircuitBilan Class
Generates bilan reports for QRAM Circuits

qramcircuits/qram_circuit_core.py
QRAMCircuitCore Class
Constructs QRAM Circuits

qramcircuits/qram_circuit_stress.py
QRAMCircuitStress Class
Performs stress testing on QRAM Circuits

qramcircuits/qram_circuit_experiments.py
QRAMCircuitExperiments Class
Handles experiments for QRAM Circuits

Classes Optimization

optimizers/cancel_t_gates.py
CancelTGates Class
Cancel T gates in a circuit

optimizers/cancel_ngh_cnots.py
CancelNghCNOTs Class
Cancels two neighbouring CNOTs

optimizers/commute_t_to_start.py
CommuteTGatesToStart Class
Commutes T gates to the start of the circuit

optimizers/parallelize_cnots.py
ParallelizeCNOTs Class
Parallelizes CNOTs

optimizers/transforme_ngh_gates.py
TransformeNghGates Class
Transforms (T and T) or (T⁻¹ and T⁻¹) or (S and S) or (S⁻¹ and S⁻¹)
gates that are neighbor horizontally on series qubits

optimizers/cancel_ngh_clifford_t_gates.py
CancelNGHCliffordTGates Class
Cancels (H and H) or (T and T⁻¹) or (S and S⁻¹) or (Z and Z)
gates that are neighbor horizontally on series qubits

Classes Composition

qramcircuits/qram_circuit_simulator.py
QRAMCircuitSimulator Class
Simulates QRAM Circuits

qramcircuits/bucket_brigade.py
BucketBrigade Class
Creates Bucket Brigade for QRAM Circuit

