

QOSF Mentorship Program

Applicant: Victor D. Gonzalez Avella

I decided to implement Task #3, where I have to develop a Quantum circuit simulator that applies a series of unitary operations to a n_qubits system. The program starts with the ground state of the computational basis and considers an ensemble composed by num_shots identically prepared quantum systems, in a quantum computer. The following operations are considered:

- Generate the ground state for the n qubits system.
- Define unitary gates.
- Apply all the unitary gates on the system.
- Prepare the measurement by considering suitable unitary gates.
- Perform a measurement of the n -qubits.

The following Flux diagram represents the general structure of the program:

