

Project 1

Quantum Walks and Monte Carlo

Team Name: Quantum Walkers



WISER Quantum Project

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Problem Statement

Our Project is about the Quantum Galton Board and how it can be tailored to create different probability distributions



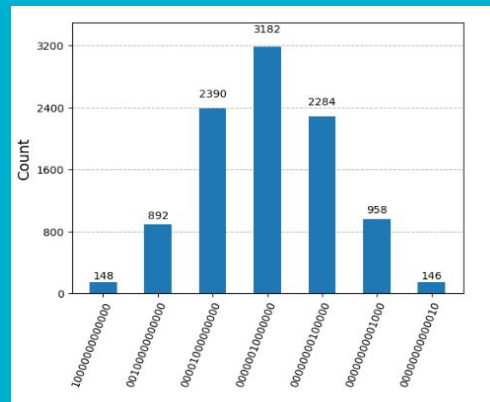
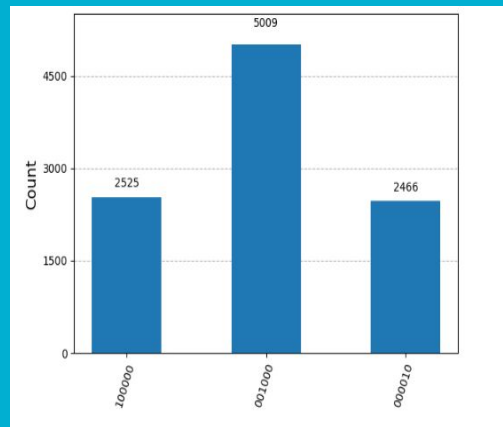
Task 1

In Task 1 we wrote a 2 page document on our understanding of the implementation of the Quantum Galton Board



Task 2

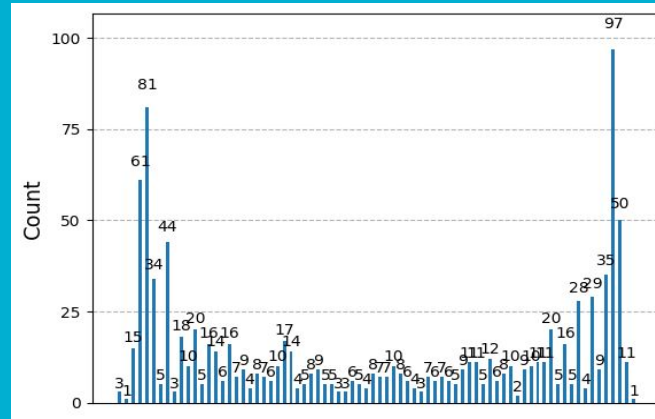
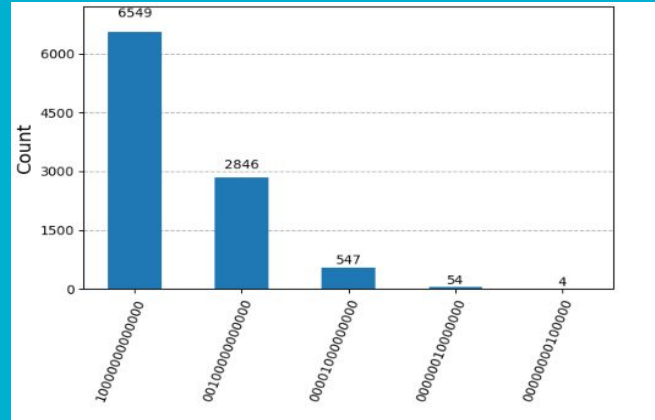
In Task 2 we wrote 1- and 2-layer Galton Box code and then a general algorithm that generates a circuit for any number of layers. We ran and verified that the output was a Gaussian



Task 3

In Task 3 modified the function so that it obtains a different target distributions:

- Exponential distribution
- Hadamard quantum walk



Thank You



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