In the irreversible case, post-distribution, the formula for the probability of finding \( f_c(x) \) can be simplified to:

\[
f_c(x) = 0 \text{ elsewhere}
\]

For any fixed \( x \), \( f_c(x) \) is zero everywhere except at \( x \).

A toy noise model:

\[
P(x) = \mathbb{E} f_c(x)
\]

Problem: Discussing.

Quantum circuit + Sampling...
Noisy new circuits can be disturbing.

Let's try to understand this.

Like a normal circuit, there's always a first day or two.

For random circuit use the following rules:

Problem function distribution:

\[ p(x) = \frac{1}{S!} \]

Now consider this:

Given N from I

we can take a sample of

\[ X_1, X_2, \ldots, X_N \]

Sample distribution

\[ N = \frac{X}{X} \]

How does a random circuit look like?
1. For low enough error rate quantum fault tolerance is possible.

2. For low enough error rate HRCA is possible in NISQ regime.

\[ \Pr \leq \frac{1}{n} \]