**Ito Integration and Calculus:**

Ito Integration is a branch of stochastic calculus that extends the traditional calculus to deal with stochastic processes, specifically those involving Brownian motion. It is named after the Japanese mathematician Kiyoshi Itô, who made significant contributions to this field. Ito Integration is fundamental in mathematical finance, physics, and various other areas where stochastic processes play a crucial role.

**Key Concepts:**

1. **Stochastic Differential Equations (SDEs):** Ito Integration is used to solve and analyze stochastic differential equations, which involve both deterministic and stochastic components.
2. **Ito's Lemma:** An extension of the chain rule for differentiating functions of stochastic processes, Ito's Lemma is a key result in stochastic calculus. It allows for the computation of the differential of a function involving stochastic processes.
3. **Ito Integral:** The Ito integral is used to represent the integral of stochastic processes with respect to Brownian motion. It is defined as a limit of Riemann sums with respect to a partition of the time interval.

In this simulation, we generate Brownian motion and use it to simulate a stochastic process involving Ito Integration. The resulting plots illustrate the paths of both Brownian motion and the simulated stochastic process. This simple example provides a visual understanding of how stochastic processes evolve over time through Ito Integration.