

Slot Machine 5 - Simulation Analysis

Simulation Overview

This report presents the results of the simulation titled 'Slot Machine 5 - Simulation Analysis', run on 2024-08-11 14:15:16.

The simulation was conducted using the following slot machine configuration:

Slot Machine Payout Probabilities:

Line 1: [0.4192253819590038, 0.060389691804859896, 0.35280138433516145, 0.1675835419009749]

Line 2: [0.40037686951888973, 0.12943430539465237, 0.09688952188276549, 0.3732993032036925]

Line 3: [0.3934306376599234, 0.07711710446795704, 0.34324783841685025, 0.1862044194552694]

Rewards: [0, 2, 5, 10]

Number of Trials: 100

Number of Strategies: 5

Summary Statistics

Strategy: FixedBetStrategy

Description: Fixed bet strategy: always bet the same amount.

Win Rate (Mean): 100.00%

Average Number of Spins: 55.16

Final Stake (Mean): 568.78

Final Stake (Median): 512.50

Final Stake (Standard Deviation): 469.41

Strategy: KellyCriterionStrategy

Description: Kelly criterion strategy: calculates the optimal bet size based on the probability of winning and the payout ratio.

Win Rate (Mean): 100.00%

Average Number of Spins: 9286.83

Final Stake (Mean): 5046.98

Final Stake (Median): 5039.00

Final Stake (Standard Deviation): 24.79

Strategy: MartingaleStrategy

Description: Martingale strategy: double the bet after each loss, reset to initial bet after each win.

Win Rate (Mean): 0.00%

Average Number of Spins: 20.00

Final Stake (Mean): 0.00

Final Stake (Median): 0.00

Final Stake (Standard Deviation): 0.00

Strategy: ReverseMartingaleStrategy

Description: Reverse Martingale strategy: double the bet after each win, reset to initial bet after each loss.

Win Rate (Mean): 0.00%

Average Number of Spins: 15.88

Final Stake (Mean): 0.00

Final Stake (Median): 0.00

Final Stake (Standard Deviation): 0.00

Strategy: FibonacciStrategy

Description: Fibonacci strategy: bet according to the Fibonacci sequence.

Win Rate (Mean): 1.00%

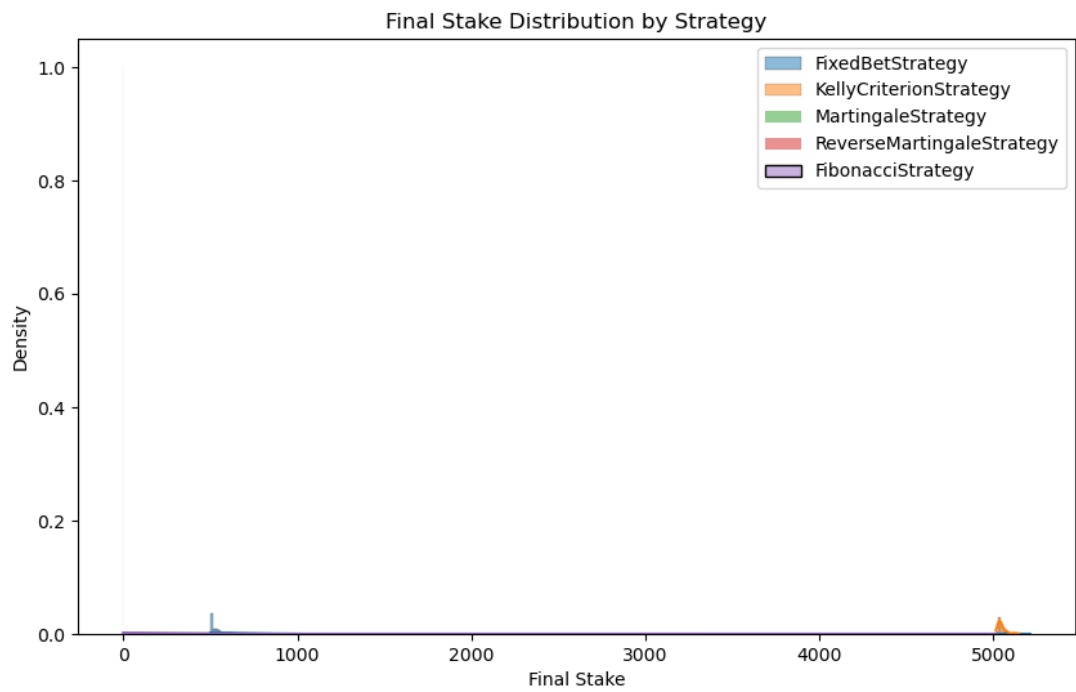
Average Number of Spins: 15.46

Final Stake (Mean): 50.15

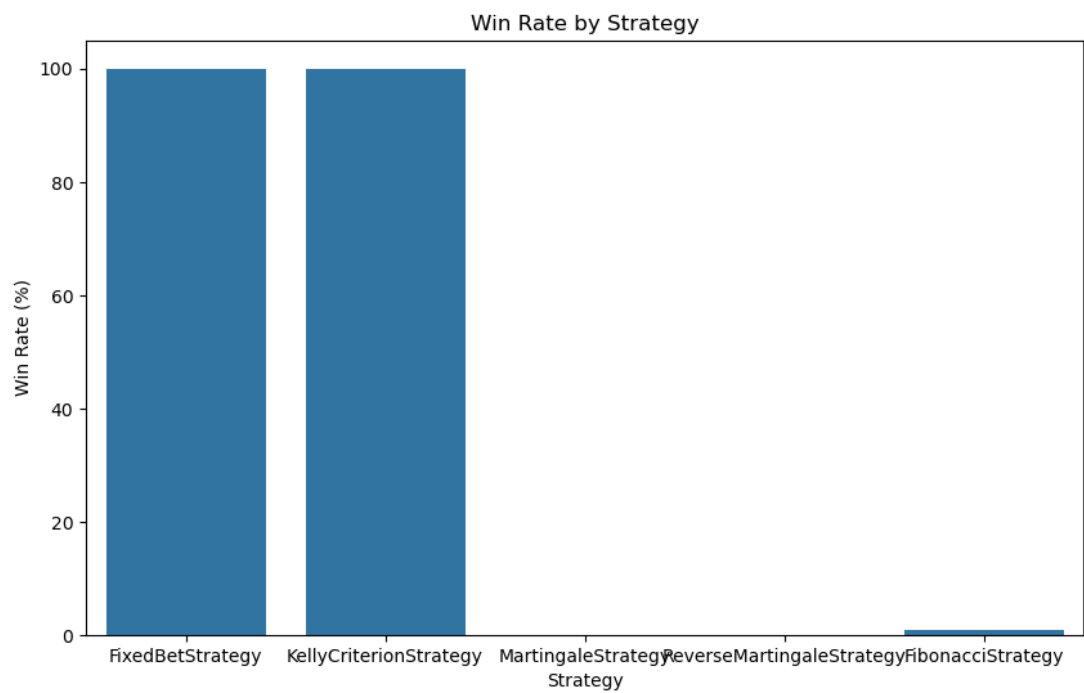
Final Stake (Median): 0.00

Final Stake (Standard Deviation): 501.50

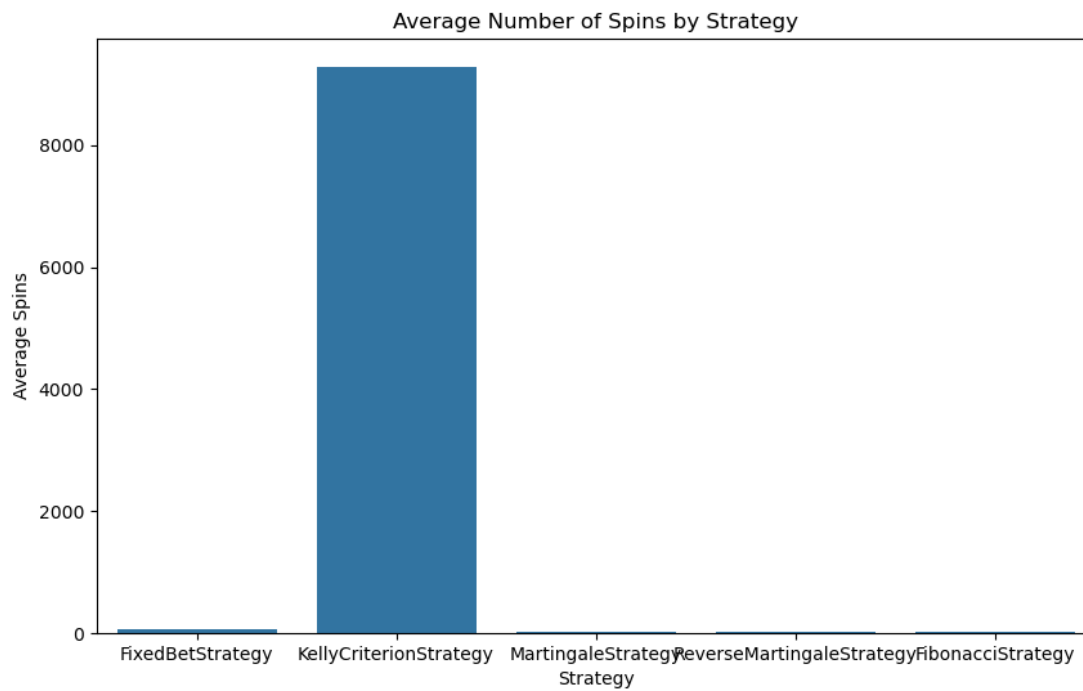
Visualizations



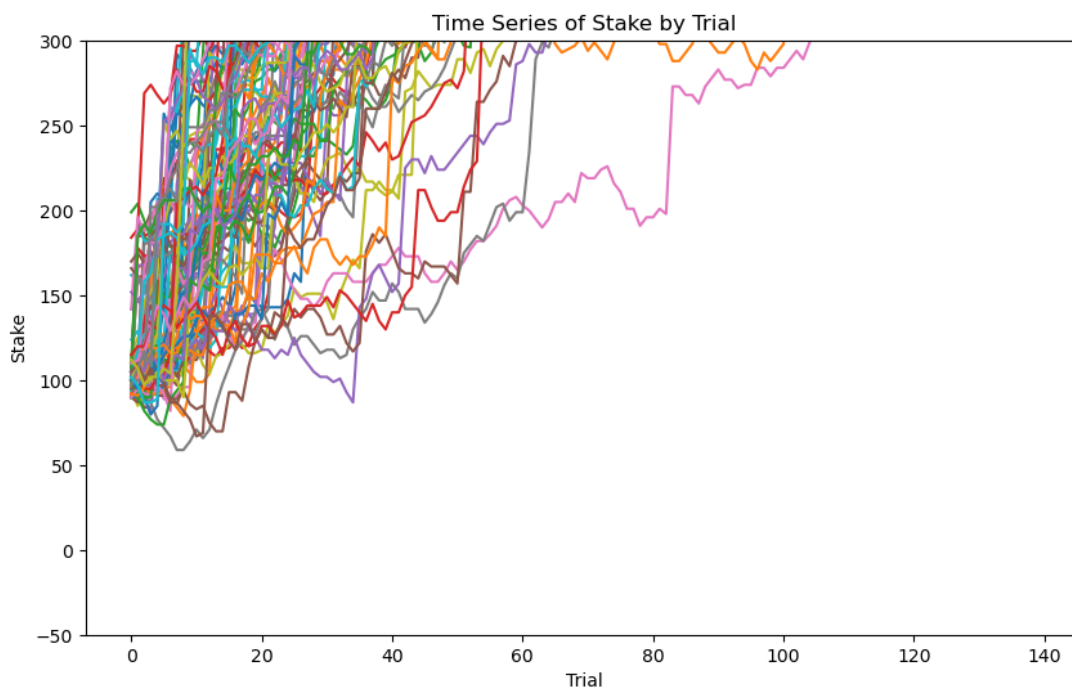
Distribution of final stakes for each trial - Strategy: FibonacciStrategy



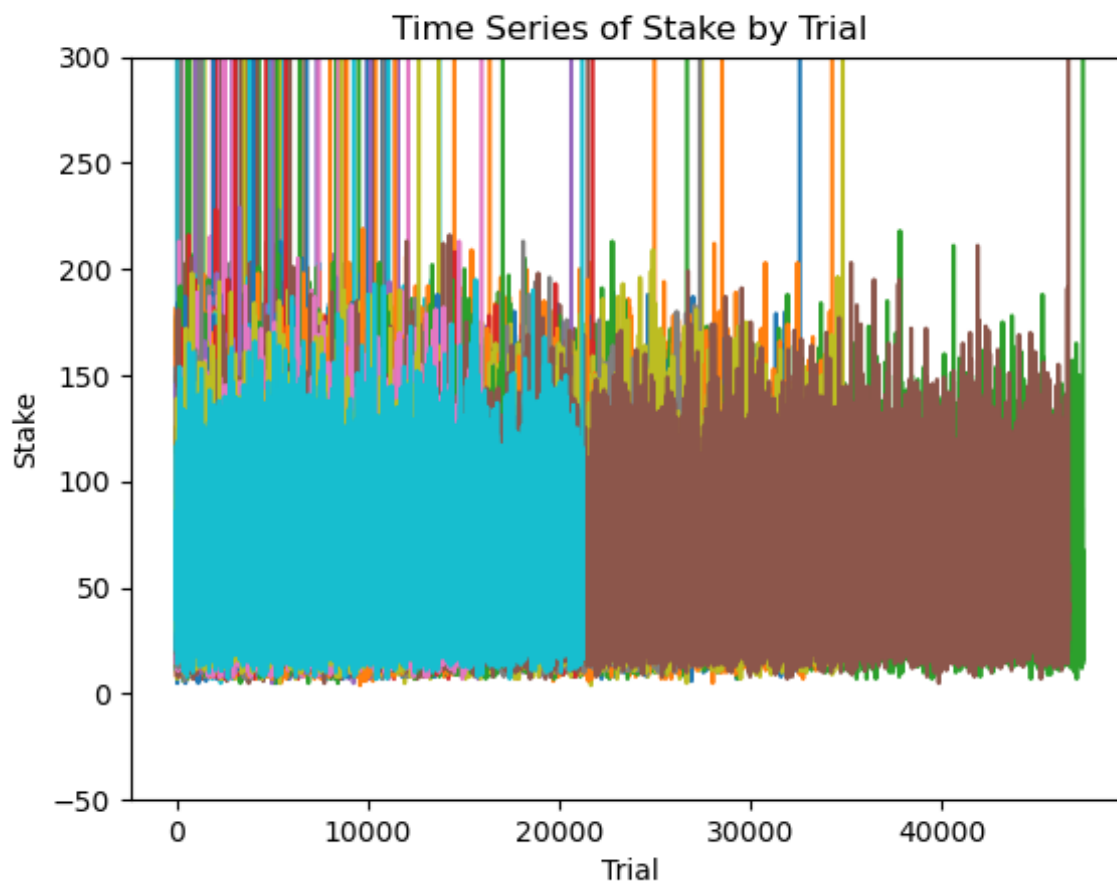
Win rate for each trial - Strategy: FibonacciStrategy



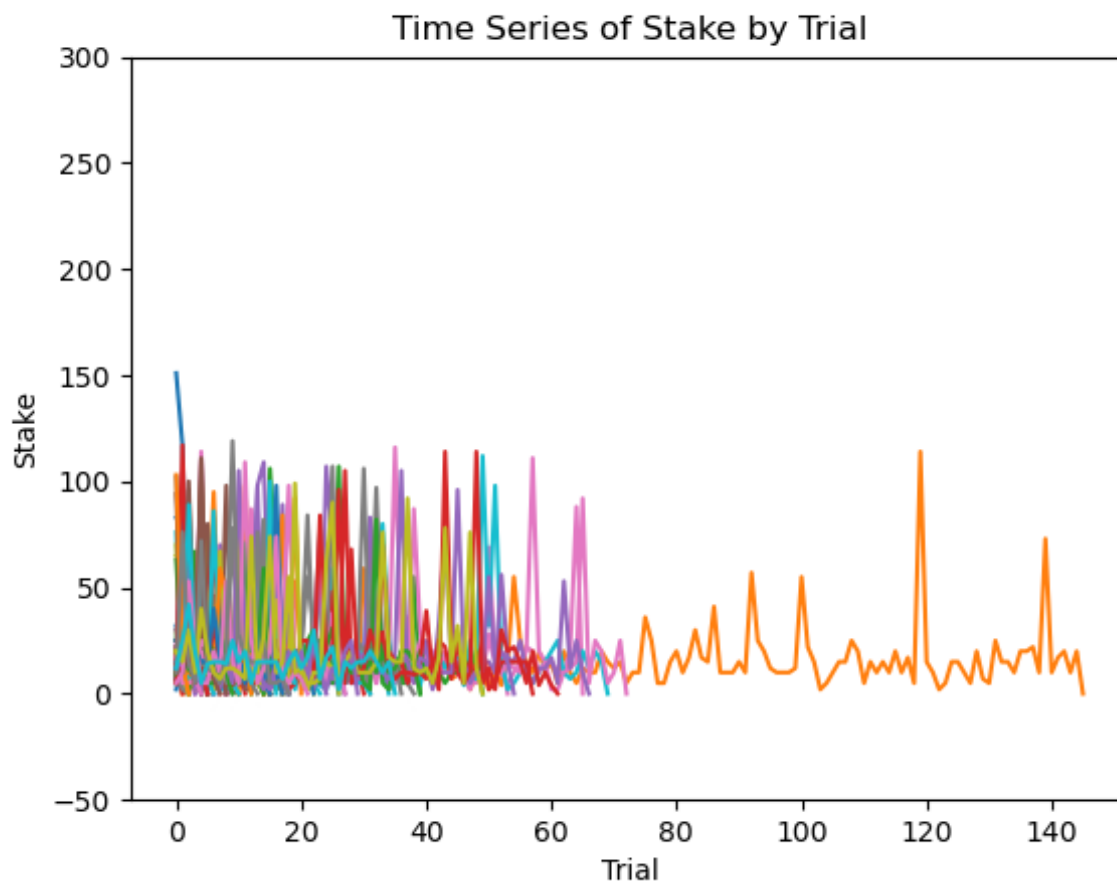
Average number of spins for each trial - Strategy: FibonacciStrategy



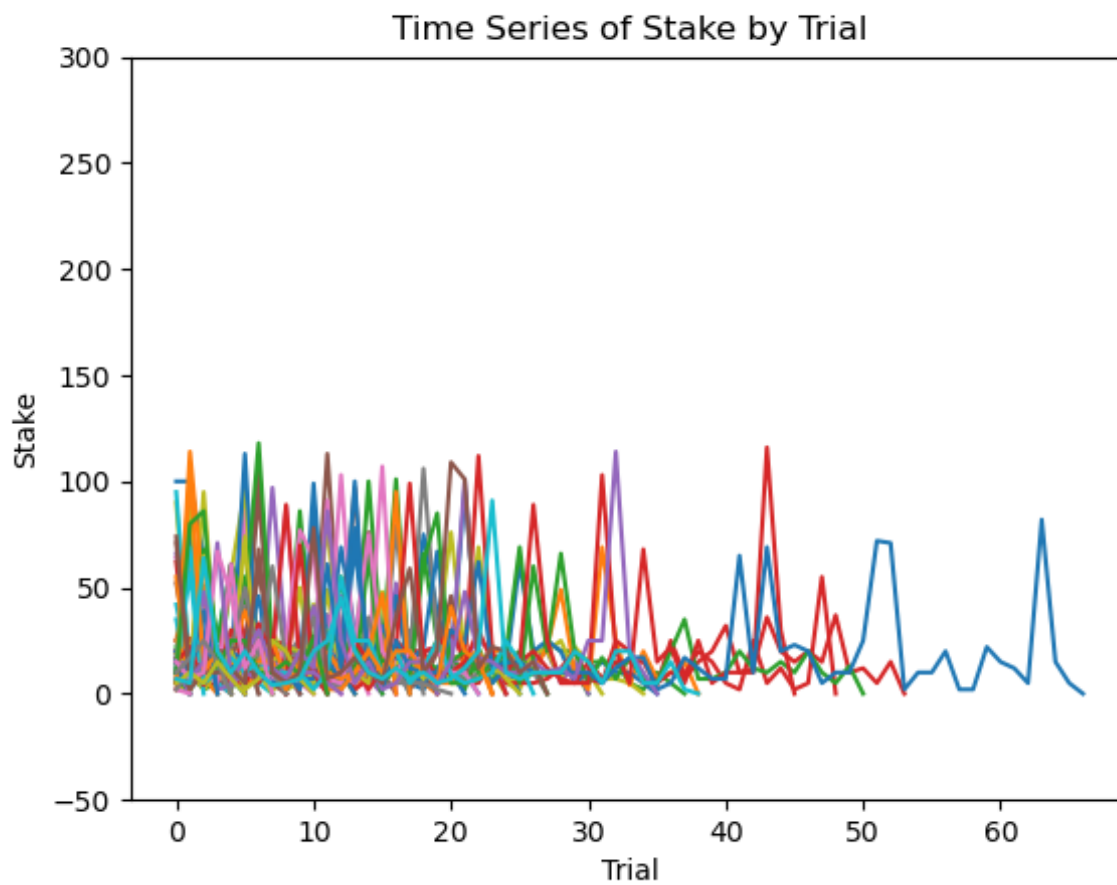
Time series of gain for Fixed Bet Strategy - Strategy: FibonacciStrategy



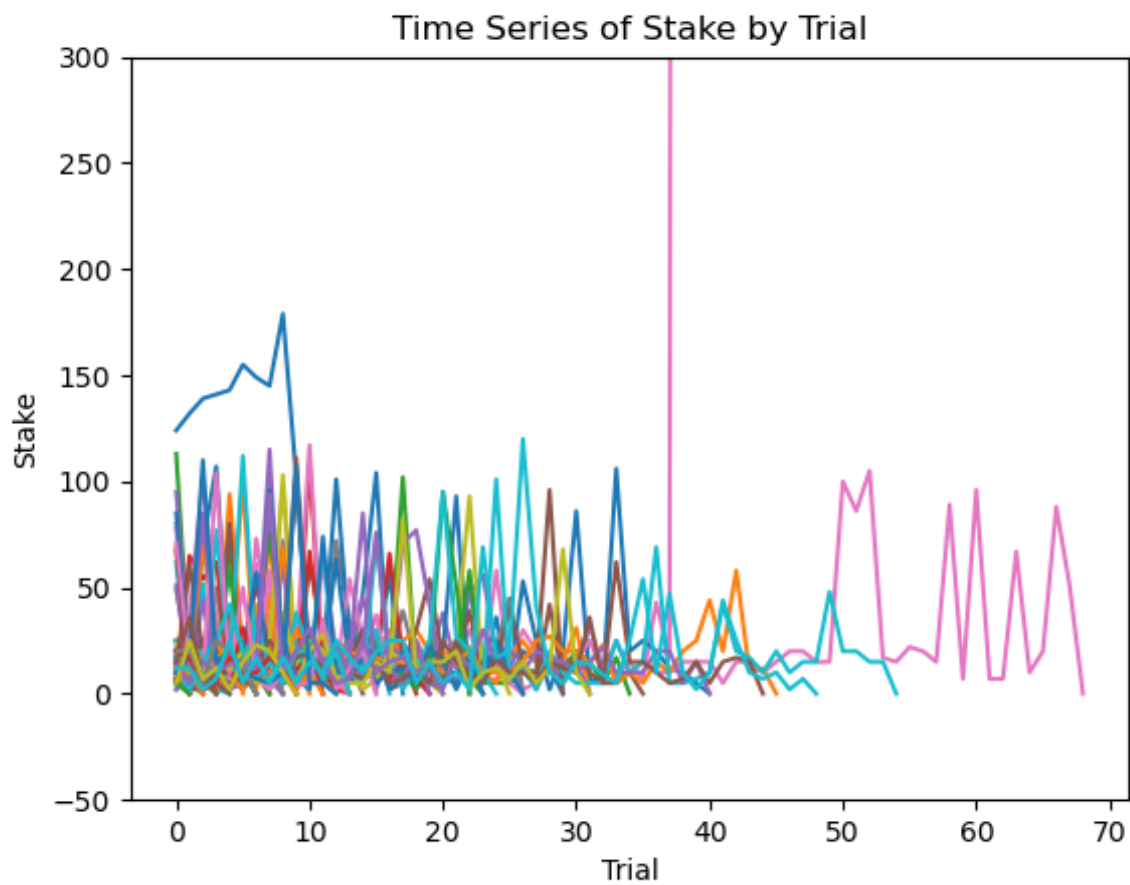
Time series of gain for Kelly Criterion Strategy - Strategy: FibonacciStrategy



Time series of gain for Martingale Strategy - Strategy: FibonacciStrategy



Time series of gain for Reverse Martingale Strategy - Strategy: FibonacciStrategy



Time series of gain for Fibonacci Strategy - Strategy: FibonacciStrategy