

# Document of Standard Agent

## Team name

U-Mart Project

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## Agent

### Name

SFSpreadStrategy

### Summary

The agent orders when a spread between spot and future price is wider than threshold. If future price is higher than spot price, the agent send a buying order, and it send a selling order when futures price is lower than spot price.

### Execution and arguments

according as TestStrategy.java

### Summary of arguments

according as TestStrategy.java

### Type

Tool	Number of orders	Market of Limit	Asset management	Reference data	Long or short term	Against or follow trend	Learning	Online learning
TestStrategy.java	1	Limit Price	Yes	futures price, spot price, position, cash, remaining session	Short term trader	Against Trend	No	No

### Outline of algorithm

Getting last future price (U-Mart price) and spot price. If a spread between future and spot price is wider than spreadRatioThreshold, the agent send an order. If future price is higher (lower) than spot price, it buy (sell). Order price is given by Gaussian distribution whose mean value is the latest futures price and standard deviation is widthOfPrice. Order Volume is obtained as an uniform random numbers between minQuote and maxQuote.

## Class

### Class Name

SPSpreadStrategy

### Super class

Strategy

### Summary of class

Same as Summary of Agent

### Fields

Name	Type	Role	Range	Value	Reason of Value
maxQuant	int	Maximam volume of one order	(minQuant+1) ... (initial cash/300,000)	50	
minQuant	int	Minimum volume of one order	1 ... (maxQuant-1)	10	
maxPosition	int	Upper bound of net position. For asset management.	1 ... (initial cash/300,000)	300	
spreadRatioThreshold	double	Threshold between spot and futures price to decide sendind other or not	0 ... 1	300	

### Methods

Name	Summary	Returned type	Arguments			
getOrder	to dicide order	Order	Name	Type	Role	Range
			spotPrice	int[]	Time Series of spot price	1 ...
			futurePrice	int[]	Time Series of futures price	-1 : When trade is failure, positive value : contracted futures price
			pos	int	current position	Positive is buying position. Negative is selling position.
			money	long	amount of cash	0 ...
			restDay	int	Number of to the closing of market	0 ... 240

### Attachment

SFSpreadStrategy.doc, SFSpreadStrategy.java

**Comments**