Different ways to place an order

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Contents

How to place an order?

There are many different ways to place orders from an algorithm. We can place an order by specifying the number of shares, value of shares, or value of shares in terms of percentage of a portfolio value.

1. Order by quantity

The order function places an order for the specified security and the specified quantity of shares (equities) or contracts (futures). If the style is not specified, the order is placed as a market order.

Syntax	**order(security, quantity, style=OrderType)**

Parameter	
security	security object, created by either using the symbol, symbols or the superSymbols functions
quantity	The integer amount of shares or contracts. Positive means buy, negative means sell.

OrderType	(optional) Specifies the order type such as
	style=MarketOrder(exchange)
	style=StopOrder(stop_price, exchange)
	style=LimitOrder(limit_price, exchange)
	style=StopLimitOrder(limit_price=price1, stop_price=price2, exchange)

Returns	An order id

Example	
To place a market order to buy 20 shares of AAPL	order(symbol('AAPL'), 20, style=MarketOrder())
To place a market order to sell -10 shares of AAPL	order(symbol('AAPL'), -10, style=MarketOrder())

2. Order by value

The order_value function places an order by desired value rather than desired number of shares. Placing a negative order value will result in selling the given value. Orders are always truncated to whole shares or contracts.

Syntax	**order_value(security, value, style=OrderType)**

Parameter	
security	security object, created by either using the symbol, symbols or the superSymbols functions
value	The value of shares or contracts. Positive means buy, negative means sell.
OrderType	(optional) Specifies the order type such as style=MarketOrder(exchange) style=StopOrder(stop_price, exchange) style=LimitOrder(limit_price, exchange) style=StopLimitOrder(limit_price=price1, stop_price=price2, exchange)

Returns	An order id

Example	
To place a market order to buy AAPL shares worth $1000	order_value(symbol('AAPL'), 1000, style=MarketOrder())
To place a market order to sell AAPL shares worth $1000	order_value(symbol('AAPL'), -1000, style=MarketOrder())

In the above example, if the price of AAPL is $170 a share, the order is placed for 5 shares, since the partial share would be truncated (discarding slippage and transaction cost).

3. Order by percent

The order_percent function places an order in the specified security corresponding to the given percent of the current portfolio value, which is the sum of the positions value and ending cash balance. Placing a negative percent order will result in selling the given percent of the current portfolio value. Orders are always truncated to whole shares or contracts. Percent must be expressed as a decimal (0.50 means 50%).

Syntax	**order_percent(security, percent, style=OrderType)**

Parameter	
security	security object, created by either using the symbol, symbols or the superSymbols functions
percent	The percentage of the portfolio value worth of shares or contracts. Positive means buy, negative means sell.
OrderType	(optional) Specifies the order type such as style=MarketOrder(exchange) style=StopOrder(stop_price, exchange) style=LimitOrder(limit_price, exchange) style=StopLimitOrder(limit_price=price1, stop_price=price2, exchange)

Returns	An order id

Example	
To place a market order to buy AAPL shares worth 50% of portfolio value	order_percent(symbol('AAPL'), 0.5, style=MarketOrder())
To place a market order to sell AAPL shares worth 50% of portfolio value	order_percent(symbol('AAPL'), -0.5, style=MarketOrder())

In the above example, if the price of AAPL is $199 a share and the portfolio value is $10000, the order is placed for 25 shares, since the partial share would be truncated (discarding slippage and transaction cost).

4. Order for a target quantity

The order_target function places an order to adjust a position to a target number of shares. If there is no existing position in the security, an order is placed for the full target number. If there is a position in the asset, an order is placed for the difference between the target number of shares or contracts and the number currently held. Placing a negative target order will result in a short position equal to the negative number specified.

Syntax	**order_target(security, target_quantity, style=OrderType)**

Parameter	
security	security object, created by either using the symbol, symbols or the superSymbols functions
target_quantity	The target quantity of shares or contracts. Positive means buy, negative means sell.
OrderType	(optional) Specifies the order type such as style=MarketOrder(exchange) style=StopOrder(stop_price, exchange) style=LimitOrder(limit_price, exchange) style=StopLimitOrder(limit_price=price1, stop_price=price2, exchange)

Returns	An order id or None if there is no difference between the target position and current position

Example	
To place a market order to have 20 long AAPL shares in the portfolio	order_target(symbol('AAPL'), 20, style=MarketOrder())
To place a market order to have 20 short AAPL shares in the portfolio	order_target(symbol('AAPL'), -20, style=MarketOrder())

In the above example, if the current portfolio has 15 shares of AAPL and the target is 20 shares, an order is placed for 5 more shares of AAPL.

Note: order_target functions only consider the status of filled orders, not open orders, when making their calculations to the target position.

5. Order for a target value

The order_target_value function places an order to adjust a position to a target value. If there is no existing position in the asset, an order is placed for the full target value. If there is a position in the asset, an order is placed for the difference between the target value and the current position value. Placing a negative target order will result in a short position equal to the negative target value. Orders are always truncated to whole shares or contracts.

Syntax	**order_target_value(security, target_value, style=OrderType)**

Parameter	
security	security object, created by either using the symbol, symbols or the superSymbols functions
target_value	The target value of shares or contracts. Positive means buy, negative means sell.
OrderType	(optional) Specifies the order type such as style=MarketOrder(exchange) style=StopOrder(stop_price, exchange) style=LimitOrder(limit_price, exchange) style=StopLimitOrder(limit_price=price1, stop_price=price2, exchange)

Returns	An order id or None if there is no difference between the target position and current position

Example	
To place a market order to have long $1000 worth of AAPL shares in the portfolio	order_target_value(symbol('AAPL'), 1000, style=MarketOrder())
To place a market order to have short $1000 worth of AAPL shares in the portfolio	order_target_value(symbol('AAPL'), -1000, style=MarketOrder())

In the above example, if the current portfolio holds $600 shares of AAPL and the target is $1000 shares, an order is placed for $400 worth shares of AAPL (rounded down to the nearest share).

Note: order_target_value functions only consider the status of filled orders, not open orders, when making their calculations to the target position.

6. Order for a target percent

The order_target_percent function places an order to adjust a position in a security to a target percent of the current portfolio value. If there is no existing position in the security, an order is placed for the full target percentage. If there is a position in the security, an order is placed for the difference between the target percent and the current percent. Placing a negative target percent order will result in a short position equal to the negative target percent. Portfolio value is calculated as the sum of the positions value and ending cash balance. Orders are always truncated to whole shares, and percentage must be expressed as a decimal (0.50 means 50%).

Syntax	**order_target_percent(security, target_percent, style=OrderType)**

Parameter	
security	security object, created by either using the symbol, symbols or the superSymbols functions
target_percent	The target percent of the portfolio value worth of shares or contracts. Positive means buy, negative means sell.
OrderType	(optional) Specifies the order type such as style=MarketOrder(exchange) style=StopOrder(stop_price, exchange) style=LimitOrder(limit_price, exchange) style=StopLimitOrder(limit_price=price1, stop_price=price2, exchange)

Returns	An order id or None if there is no difference between the target position and current position

Example	
To place a market order to have long AAPL shares worth 50% of the portfolio	order_target_percent(symbol('AAPL'), 0.5, style=MarketOrder())
To place a market order to have short AAPL shares worth 50% of the portfolio	order_target_percent(symbol('AAPL'), -0.5, style=MarketOrder())

In the above example, if the current portfolio holds 30% of AAPL and the target is to allocate 50% of the portfolio value to AAPL, an order is placed for the difference, 20% of portfolio value, worth shares of AAPL (rounded down to the nearest share).

Note: order_target_percent functions only consider the status of filled orders, not open orders, when making their calculations to the target position.

In the next lesson, we will see how to retrieve open orders.