Simple Order Protocol (sop), an imaginary protocol.

# Introduction

SOP is a simple, text protocol for an imaginary stock exchange. Use it to place simple orders and make simple trades. I created it for my [blog](https://prontog.wordpress.com/).

## The protocol

The SOP message types follow the format HEADER|PAYLOAD|TRAILER (note that '|' is not included in the protocol).

### Header

|  |  |  |  |
| --- | --- | --- | --- |
| Field | Length | Type | Description |
| SOH | 1 | STRING | Start of header. |
| LEN | 3 | NUMERIC | Length of the payload (i.e. no header/trailer). |

### Trailer

|  |  |  |  |
| --- | --- | --- | --- |
| Field | Length | Type | Description |
| ETX | 1 | STRING | End of text. |

## Message types

The message types are:

|  |  |
| --- | --- |
| Type | Description |
| NO | New Order |
| OC | Order Confirmation |
| TR | Trade |
| RJ | Rejection |
| EN | Exchange News |
| BO | Best Bid and Offer |

### NO - New Order

|  |  |  |  |
| --- | --- | --- | --- |
| Field | Length | Type | Description |
| msgType | 2 |  | Defines message type ALWAYS FIRST FIELD IN MESSAGE PAYLOAD. |
| side | 1 |  | Side of order. B for buy, S for sell. |
| type | 3 |  | Order type. LMT for limit, MKT for market. |
| volume | 7 | NUMERIC | Number of shares. |
| symbol | 12 |  | Ticker symbol. |
| price | 8 | NUMERIC | Price per unit of quantity (e.g. per share) |
| clientId | 16 |  | Unique identifier for Order as assigned by the client. |
| accountId | 16 |  | Identifier for the account of be used for clearance. |

### OC - Order Confirmation

|  |  |  |  |
| --- | --- | --- | --- |
| Field | Length | Type | Description |
| msgType | 2 |  | Defines message type ALWAYS FIRST FIELD IN MESSAGE PAYLOAD. |
| orderId | 6 |  | Unique identifier for Order as assigned by the exchange. |
| side | 1 |  | Side of order. B for buy, S for sell. |
| type | 3 |  | Order type. LMT for limit, MKT for market. |
| volume | 7 | NUMERIC | Number of shares. |
| symbol | 12 |  | Ticker symbol. |
| price | 8 | NUMERIC | Price per unit of quantity (e.g. per share) |
| clientId | 16 |  | Unique identifier for Order as assigned by the client. |
| accountId | 16 |  | Identifier for the account of be used for clearance. |

### TR – Trade

|  |  |  |  |
| --- | --- | --- | --- |
| Field | Length | Type | Description |
| msgType | 2 |  | Defines message type ALWAYS FIRST FIELD IN MESSAGE PAYLOAD. |
| tradeId | 6 |  | Unique identifier for Trade as assigned by the exchange. |
| orderid | 6 |  | Unique identifier for Order as assigned by the exchange. |
| volume | 7 | NUMERIC | Number of shares. |
| symbol | 12 |  | Ticker symbol. |
| price | 8 | NUMERIC | Price per unit of quantity (e.g. per share) |

### RJ – Rejection

|  |  |  |  |
| --- | --- | --- | --- |
| Field | Length | Type | Description |
| msgType | 2 |  | Defines message type ALWAYS FIRST FIELD IN MESSAGE PAYLOAD. |
| clientId | 16 |  | Unique identifier for Order as assigned by the client. |
| rejectionCode | 3 | NUMERIC | Rejection Code |
| text | 48 |  | Text explaining the rejection |

### EN - Exchange News

|  |  |  |  |
| --- | --- | --- | --- |
| Field | Length | Type | Description |
| msgType | 2 |  | Defines message type ALWAYS FIRST FIELD IN MESSAGE PAYLOAD. |
| textLen | 4 |  | Length of text field. |
| text | textLen | VARLEN | Free format text string. |
| source | 16 |  | Source of the news. |

### BO - Best Bid and Offer

|  |  |  |  |
| --- | --- | --- | --- |
| Field | Length | Type | Description |
| MsgType | 2 |  | Defines message type ALWAYS FIRST FIELD IN MESSAGE PAYLOAD. |
| Symbol | 12 |  | Ticker symbol. |
| Number of levels | 1 | NUMERIC | Number of BBO levels |
| Levels | Number of levels | REPEATING |  |
| Bid Volume | 7 | NUMERIC | Bid number of shares. |
| Bid Price | 8 | NUMERIC | Bid price per unit of quantity (e.g. per share) |
| Bid Orders | 5 | NUMERIC | Bid number of orders |
| Offer Volume | 7 | NUMERIC | Offer number of shares. |
| Offer Price | 8 | NUMERIC | Offer price per unit of quantity (e.g. per share) |
| Offer Orders | 5 | NUMERIC | Offer number of orders |

### LO – Lough Out

**\*\* experimental \*\***

|  |  |  |  |
| --- | --- | --- | --- |
| Field | Length | Type | Description |
| msgType | 2 |  | Defines message type ALWAYS FIRST FIELD IN MESSAGE PAYLOAD. |

## Appendix

Blah blah blah.