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 1 /*
 2        Author's Name:              Kenneth Larot Yamat
 3
 4        Purpose of Program:         To create a program that automatically creates
 5                                    trading tickets for a security, for example, buy
 6                                    and sell orders for shares of an exchange traded fund.
 7
 8        Date Due:                   11:59 PM on March 4th, 2024
 9 */
10
11 Project Proposal:      To create a program that automatically creates
12                        trading tickets for a security, for example, buy
13                        and sell orders for shares of an exchange traded fund.
14
15                        A user would only manually enter the first order, either to
16                        buy or sell a security, the program would populate and submit
17                        a new ticket based on the fulfillment of the previous ticket,
18                        the chain of tickets would continue until the user decided to
19                        cancel the chain.
20
21 A) Background and the needs:
22
23                        This program is needed because there are many securities
24                        that are difficult to trade because they are illiquid as
25                        a result of large bid and ask spreads, or because they lack
26                        volume.
27
28                        The goal is to reduce spreads while increasing volume.
29
30                        Another need is due to the fact that manually performing this task
31                        is laborious and prone to error.
32
33
34 B) Function list:
35
36                            getSecurityPrice
37                            setSecurityPrice
38
39                            setPurchasePrice
40                            getPurchasePrice
41
42                            setLiquidationPrice
43                            getLiquidationPrice
44
45                            setAvarageTrueRange
46                            getAverageTrueRange
47
48                            setBollingerBandWidth
49                            getBollingerBandWidth
50
51                            setAverageDirectionalIndex
52                            getAverageDirectionalIndex
53
54 C) User interface (UI) design:
55
56     Step 1
57
```

```
58
59              Trade Ticket
60              ============
61
62              Security:        [User Input Element]
63              Buy or Sell:     [User Input Element]
64              Limit:           [User Input Element]
65              Quantity:        [User Input Element]
66              ATR:             [User Input Element]
67              BBW:             [User Input Element]
68              ADX:             [User Input Element]
69
70      Step 2
71
72
73              Your initial [Buy/Sell] Trade ticket for [Security] has been
74              submitted at the following price [Limit Price] and quantity [Quantity].
75
76              Subsequent orders will be automatically generated and submitted contingent
77              upon the fulfillment of the previous order, with buy limits and sell limits
78              based on the Average True Range, Bollinger Band Width, and Average Directional
79              Index entered on the initializing ticket.
80
81              Sell orders will be generated with a limit of   [Calculated Amount] above the previously filled ticket
82              Buy  orders will be generated with a limit of   [Calculated Amount] below the previously filled ticket
83
84              [   User Input Element   [Accept and Submit]   [Override and Submit]   [Start Over]   ]
85
86      Step 3
87
88              [Ticker Symbol]    [Buy/Sell]      [Order Quantity]      [Limit Price]        [Ticket Status]
89
90              [   HFH.P             Buy               1                  86.86                Open        ]
91
92      Step 4
93              [Ticker Symbol]    [Buy/Sell]      [Order Quantity]      [Limit Price]        [Ticket Status]
94
95              [   HFH.P             Buy               1                  86.86                Filled      ]
96
97      Step 5
98
99              [Ticker Symbol]    [Buy/Sell]      [Order Quantity]      [Limit Price]        [Ticket Status]
100
101             [   HFH.P             Sell              1                  86.89                Open        ]
102
103     Step 6
104
105             [Ticker Symbol]    [Buy/Sell]      [Order Quantity]      [Limit Price]        [Ticket Status]
106
107             [   HFH.P             Sell              1                  86.89                Filled      ]
108
109     Step 7
110
111             [Ticker Symbol]    [Buy/Sell]      [Order Quantity]      [Limit Price]        [Ticket Status]
112
113             [   HFH.P             Buy               1                  86.87                Open        ]
114
```

```
115    Step 8
116
117              [Ticker Symbol]     [Buy/Sell]         [Order Quantity]         [Limit Price]              [Ticket Status]
118
119              [   HFH.P              Buy                   1                     86.87                    Filled      ]
120
121    Notes:      this sequence is based on + 00.03 to Sell orders and - 00.02 to Buy orders for first issue preferred shares for the security HFH
122
123 D) Class diagram
124
125
126
127 E) File and database design:
128
129 F) Expectations of project fulfillment:
130
131    a.  [Ticket]               instantiates based on user input.
132
133        [AutoTicket]           instantiates based on fulfillment of previous ticket.
134
135    b.
136
137    c.
138
139    d.  [Arraylist]            Arraylist will be used to log the sequence of trades
140
141    e.  [Exception handling]   a user may enter alphabetical values in a field that requires an int or
142                               double, and vice versa, an invalid data message will prompt the user.
143
144    f.  [Database]
145
146    g.
147        [Documentation]        very detailed and elaborate notes will be included in every program,
148                               class, method, and attribute regarding the purpose, design, development,
149                               and miscellaneous other notes as well.  JavaDoc will see extensive use.
150
151 G) Project Report
152
153    a.
154    b.
155    c.
156    d.
157    e.
158    f.
159    g.
160    h.
161
162
163
```