%function takes in a single trade and returns whether it bought or sold

function [openPos,bought,sold] = act(trade1)

openPos = 0

bought = 0

sold = 0

%switch case checks which moving average is in question and retrieves

%relevant historical information

switch trade1.movingAvg1

case '5 MA'

%trade1.paramas.Symbol = ticker symbol

%trade1.movingAvg = moving average

data = IBMatlab('action','history', 'symbol',trade1.paramas.Symbol,'barSize',trade1.barSize, 'useRTH',trade1.paramas.outsideRTH,'duration', '1 day');

case '7 MA'

data = IBMatlab('action','history', 'symbol',trade1.paramas.Symbol,'barSize',trade1.barSize, 'useRTH',trade1.paramas.outsideRTH,'duration', '1 day');

case '8 MA'

data = IBMatlab('action','history', 'symbol',trade1.paramas.Symbol,'barSize',trade1.barSize, 'useRTH',trade1.paramas.outsideRTH,'duration', '1 day');

case '15 MA'

data = IBMatlab('action','history', 'symbol',trade1.paramas.Symbol,'barSize',trade1.barSize, 'useRTH',trade1.paramas.outsideRTH,'duration', '1 day');

end

switch trade1.movingAvg2

case '5 MA'

%trade1.paramas.Symbol = ticker symbol

%trade1.movingAvg = moving average

data2 = IBMatlab('action','history', 'symbol',trade1.paramas.Symbol,'barSize',trade1.barSize, 'useRTH',trade1.paramas.outsideRTH,'duration', '1 day');

case '7 MA'

data2 = IBMatlab('action','history', 'symbol',trade1.paramas.Symbol,'barSize',trade1.barSize, 'useRTH',trade1.paramas.outsideRTH,'duration', '1 day');

case '8 MA'

data2 = IBMatlab('action','history', 'symbol',trade1.paramas.Symbol,'barSize',trade1.barSize, 'useRTH',trade1.paramas.outsideRTH,'duration', '1 day');

case '15 MA'

data2 = IBMatlab('action','history', 'symbol',trade1.paramas.Symbol,'barSize',trade1.barSize, 'useRTH',trade1.paramas.outsideRTH,'duration', '1 day');

end

%Gets the current information about the stock in question

current = IBMatlab('action', 'query', 'symbol', trade1.paramas.Symbol);

%sends the highs, lows and closes from the historical data to EMA() which

%returns the averages for each candle

total1 = (data.high + data.low + data.close)/3;

total2 = (data2.high + data2.low + data2.close)/3;

divisor1 = trade1.paramas.moveingAverage1

divsor2 = trade1.paramas.moveingAverage2

averages1 = movavg(total1,'simple',divisor1);

averages2 = movavg(total2,'simple',divisor2);

disp(trade1.paramas.Action);

%if the movingAverage1 is above MovingAverage2 and there are no open positions then long

if averages1(1) > averages2(1)&& openPos == 0

disp('long');

%IBMatlab statement is just taking the trade parameters which has

%all the info needed to buy

IBMatlab(trade1.paramas.BUY);

%sets boolean value of bought

openPos = 1;

bought = 1;

else

disp('did not long');

end

else

%program will go in here if the action is 'sell'

disp('bid ');

disp(current.bidPrice);

disp('averages1 ');

disp(averages1(1));

disp('averages2 ');

disp(averages2(1));

%if market value if less than the most recent candle average then sell

if averages1(1) < averages2(1)&& openPos == 1 && bought == 1

disp('sold');

IBMatlab(trade1.paramas.CLOSE);

%sets boolean value of sold

sold = 1;

bought = 0;

openPos = 0;

else

disp('didnt sell');

end

end

%if the movingAverage1 is below MovingAverage2 and there are no open positions then short

if averages1(1) < averages2(1)&& openPos == 0

disp('short');

%IBMatlab statement is just taking the trade parameters which has

%all the info needed to buy

IBMatlab(trade1.paramas.SELL);

%sets boolean value of bought

openPos = 1;

sold = 1;

else

disp('did not short');

end

else

%program will go in here if the action is 'sell'

disp('bid ');

disp(current.bidPrice);

disp('averages1 ');

disp(averages1(1));

disp('averages2 ');

disp(averages2(1));

%if movingAverage1 is greater than movingAverage2 then buy to cover

if averages1(1) > averages2(1)

disp('close');

IBMatlab(trade1.paramas.CLOSE);

%sets boolean value of sold

sold = 0;

openPos = 0;

else

disp('didnt close');

end

end

end