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

function [sold, bought] = act(trade1)

sold = 0;

bought = 0;

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

%relevant historical information

switch trade1.movingAvg.paramas.MovingAverage1

case '1 min'

%trade1.paramas.Symbol = ticker symbol

%trade1.movingAvg = moving average

data = IBMatlab('action','history', 'symbol',trade1.paramas.Symbol,'barSize',trade1.movingAvg, 'useRTH',1,'duration', '420 S');

case '1 hour'

data = IBMatlab('action','history', 'symbol',trade1.paramas.Symbol,'barSize',trade1.movingAvg, 'useRTH',1,'duration', '21 D');

case '1 day'

data = IBMatlab('action','history', 'symbol',trade1.paramas.Symbol,'barSize',trade1.movingAvg, 'useRTH',1,'duration', '2 Y');

case '1 W'

data = IBMatlab('action','history', 'symbol',trade1.paramas.Symbol,'barSize',trade1.movingAvg, 'useRTH',1,'duration', '10 Y');

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

averages1 = EMA(data.high,data.low,data.close);

disp(trade1.paramas.Action);

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

%relevant historical information

switch trade1.movingAvg.paramas.MovingAverage2

case '1 min'

%trade1.paramas.Symbol = ticker symbol

%trade1.movingAvg = moving average

data = IBMatlab('action','history', 'symbol',trade1.paramas.Symbol,'barSize',trade1.movingAvg, 'useRTH',1,'duration', '420 S');

case '1 hour'

data = IBMatlab('action','history', 'symbol',trade1.paramas.Symbol,'barSize',trade1.movingAvg, 'useRTH',1,'duration', '21 D');

case '1 day'

data = IBMatlab('action','history', 'symbol',trade1.paramas.Symbol,'barSize',trade1.movingAvg, 'useRTH',1,'duration', '2 Y');

case '1 W'

data = IBMatlab('action','history', 'symbol',trade1.paramas.Symbol,'barSize',trade1.movingAvg, 'useRTH',1,'duration', '10 Y');

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

averages2 = EMA(data.high,data.low,data.close);

disp(trade1.paramas.Action);

%outer if statement checks to see whether you are trying to buy or sell

if strcmp(trade1.paramas.Action, 'buy')

%disp statements just to print out the prices that are being compared

disp('in buy')

disp('bid ');

disp(current.bidPrice);

disp('averages ');

disp(averages1(1));

disp(averages2(1));

%if the current market price if above the most recent average then buy

if averages1 (1) > averages2(1)

disp('bought');

%IBMatlab statement is just taking the trade parameters which has

%all the info needed to buy

IBMatlab(trade1.paramas);

%sets boolean value of bought

bought = 1;

else

disp('did not buy');

end

else

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

disp('bid ');

disp(current.bidPrice);

disp('averages ');

disp(averages1(1));

disp(averages2(1));

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

if averages2 (1) < averages1(1)

disp('sold');

IBMatlab(trade1.paramas);

%sets boolean value of sold

sold = 1;

else

disp('didnt sell');

end

end

end