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//Break Out EA.mq4

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//変数の宣言
extern int Magic      = 1515;
extern int Break_Period = 24;
extern double Lots    = 0.1;
extern int Slippage    = 10;
extern string Comments = "Break Out";
extern int Trailing_Stop = 50;

int Buy_Ticket = 0;
int Sell_Ticket = 0;
double Pips = 0;
int Adjusted_Slippage = 0;

//関数の定義
double AdjustPoint(string Currency)
{
    int Symbol_Digits = MarketInfo(Currency,MODE_DIGITS);

    if(Symbol_Digits == 2 || Symbol_Digits == 3)
    {
        double Calculated_Point = 0.01;
    }
    else if(Symbol_Digits == 4 || Symbol_Digits == 5)
    {
        Calculated_Point = 0.0001;
    }

    return(Calculated_Point);
}

int AdjustSlippage(string Currency,int Slippage_Pips)
{
    int Symbol_Digits = MarketInfo(Currency,MODE_DIGITS);

    if(Symbol_Digits == 2 || Symbol_Digits == 4)
    {
        int Calculated_Slippage = Slippage_Pips;
    }
    else if(Symbol_Digits == 3 || Symbol_Digits == 5)
    {
        Calculated_Slippage = Slippage_Pips * 10;
    }

    return(Calculated_Slippage);
}

int init()
{
    Pips = AdjustPoint(Symbol());
    Adjusted_Slippage = AdjustSlippage(Symbol(),Slippage);

    return(0);
}

int start()
{
    //チケット番号の初期化
    if(OrdersTotal() == 0)
    {
        Buy_Ticket = 0;
        Sell_Ticket = 0;
    }

    //クローズ処理
    //ポジション保有の確認
    if(OrderSelect(0,SELECT_BY_POS,MODE_TRADES) == true)
    {
        //ロングポジションクローズ
        if(OrderType() == OP_BUY)
        {
            if(Close[0] < Low[Lowest(Symbol(),0,MODE_LOW,Break_Period,1)]
            && OrderCloseTime() == 0)
            {
                bool Closed = OrderClose(OrderTicket(),OrderLots(),OrderClosePrice(),
                    Adjusted_Slippage,Magenta);

                if(Closed == true)
                {
                    Buy_Ticket = 0;
                }
            }
        }

        //ショートポジションクローズ
        else if(OrderType() == OP_SELL)
        {
            if(Close[0] > High[Highest(Symbol(),0,MODE_HIGH,Break_Period,1)]
            && OrderCloseTime() == 0)
            {
                Closed = OrderClose(OrderTicket(),OrderLots(),OrderClosePrice(),
                    Adjusted_Slippage,Aqua);

                if(Closed == true)
                {
                    Sell_Ticket = 0;
                }
            }
        }
    }

    //エントリー処理
    //ロングエントリー
    if(Close[0] > High[Highest(NULL,0,MODE_HIGH,Break_Period,1)] && OrdersTotal() == 0)
    {
        Buy_Ticket = OrderSend(Symbol(),OP_BUY,Lots,Ask,Adjusted_Slippage,0,0,
            Comments,Magic,0,Magenta);
    }

    //ショートエントリー
    if(Close[0] < Low[Lowest(NULL,0,MODE_LOW,Break_Period,1)] && OrdersTotal() == 0)
    {
        Sell_Ticket = OrderSend(Symbol(),OP_SELL,Lots,Bid,Adjusted_Slippage,0,0,
            Comments,Magic,0,Aqua);
    }

    //トレーリングストップ
    if(Buy_Ticket > 0 || Sell_Ticket > 0)
    {
        for(int i = OrdersTotal() - 1; i >= 0; i--)
        {
            if(OrderSelect(i,SELECT_BY_POS,MODE_TRADES) == true)
            {
                //買いポジションの場合
                if(OrderType() == OP_BUY)
                {
                    double Max_Stop_Loss = Bid - Trailing_Stop * Pips;
                    Max_Stop_Loss = NormalizeDouble(Max_Stop_Loss,
                        MarketInfo(Symbol(),MODE_DIGITS));

                    double Current_Stop = NormalizeDouble(OrderStopLoss(),
                        MarketInfo(Symbol(),MODE_DIGITS));

                    //損切り価格の変更
                    if(OrderMagicNumber() == Magic && OrderSymbol() == Symbol()
                    && Current_Stop < Max_Stop_Loss)
                    {
                        bool Modified = OrderModify(OrderTicket(),OrderOpenPrice(),Max_Stop_Loss,0,0);
                    }
                }
                //売りポジションの場合
                else if(OrderType() == OP_SELL)
                {
                    Max_Stop_Loss = Ask + Trailing_Stop * Pips;
                    Max_Stop_Loss = NormalizeDouble(Max_Stop_Loss,
                        MarketInfo(Symbol(),MODE_DIGITS));

                    Current_Stop = NormalizeDouble(OrderStopLoss(),
                        MarketInfo(Symbol(),MODE_DIGITS));

                    //損切り価格の変更
                    if(OrderMagicNumber() == Magic && OrderSymbol() == Symbol()
                    && (Current_Stop > Max_Stop_Loss || Current_Stop == 0))
                    {
                        Modified = OrderModify(OrderTicket(),OrderOpenPrice(),Max_Stop_Loss,0,0);
                    }
                }
            }
        }
    }

    return(0);
}
```