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//+-----+
//|                                     C_Calendar_Data.mqh |
//|                                     Copyright 2017, M Wilson. |
//|                                     https://www.algotrader.blog|
//+-----+
#property copyright "Copyright 2017, M Wilson"
#property link      "https://www.algotrader.blog"
#property version   "1.00"
#property strict

//+-----+
//| The class represents calendar data. It contains the Date/Time, Country,
//| Title and Impact Level of the Calendar Event. There is an enumeration
//| defined to represent the impact level, Constructors for building the data,
//| an IsEqual function to see if calendar data is equal and an AsString function
//| to get a string representation of the calendar data.
//| It is used as part of the Calendar Classes to download/import calendar data and test
//| for important calendar events.
//+-----+

//+-----+
//| Enumerations
//+-----+
enum NewsImpact
{
    Holiday=0,
    LowImpact=1,
    MediumImpact=2,
    HighImpact=3,
};

//+-----+
//| Calendar Data Class
//+-----+

class C_Calendar_Data
{
public:
    //Variables
    datetime m_dtTime;
    string m_strCountry;
    string m_strTitle;
    NewsImpact m_eImpact;
    //Functions
    //Copy Constructor
    C_Calendar_Data (){};
    C_Calendar_Data(const datetime dtTime, const string strCountry, const string strTitle
, const NewsImpact eImpact):m_dtTime(dtTime),m_strCountry(strCountry),m_strTitle(
strTitle),m_eImpact(eImpact){};
    C_Calendar_Data (const C_Calendar_Data &srcC_Calendar_Data):m_dtTime(
srcC_Calendar_Data.m_dtTime),m_strCountry(srcC_Calendar_Data.m_strCountry),m_strTitle(
srcC_Calendar_Data.m_strTitle),m_eImpact(srcC_Calendar_Data.m_eImpact){};
    //Public Functions
    bool IsEqual(const C_Calendar_Data &inputC_Calendar_Data);
    string AsString(){string strRet=TimeToString(this.m_dtTime)+", "+this.m_strCountry+
", "+EnumToString(this.m_eImpact)+", "+this.m_strTitle;return strRet;};
    bool IsBankHoliday();
};

//+-----+
//| Calendar Data - Public Functions
//+-----+
bool C_Calendar_Data::IsEqual(const C_Calendar_Data &inputC_Calendar_Data)
{
    bool boolDateOK=MathAbs(this.m_dtTime-inputC_Calendar_Data.m_dtTime)<=1;
    bool boolCountryOK=(this.m_strCountry==inputC_Calendar_Data.m_strCountry);
    bool boolTitleOK=(this.m_strTitle==inputC_Calendar_Data.m_strTitle);
    bool boolImpactOK=(this.m_eImpact==inputC_Calendar_Data.m_eImpact);
    bool boolRet=(boolDateOK && boolCountryOK && boolTitleOK && boolImpactOK);

    return boolRet;
};

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}  
bool C_Calendar_Data::IsBankHoliday()  
{  
    bool boolRet=False;  
    string strDescrip = this.m_strTitle;  
    StringToUpper(strDescrip);  
    int iBank=StringFind(strDescrip,"BANK",0);  
    if((iBank>=0 && StringFind(strDescrip,"HOLIDAY",iBank)>=0) || this.m_eImpact==Holiday  
) boolRet=True;  
    return boolRet;  
}
```