```vb
' *****************************************************************************
' Surname, Initials: ML, Zuze
' Student Number: 201477488
' Practical: P05
' Class name: cCrime
' *****************************************************************************

Option Strict On
Option Explicit On
Option Infer Off

Public Class cCrime
    Private Shared Case_ID As Integer = 0 'Case ID
    Private Invest_Surname As String 'This is used to input the investigating
officer's Surname
    Private Invest_Rank As String 'This is used to input the investigating officer's
Rank
    Private ValofLoss As Double 'this is used to input the Value of loss

    Public Sub New() 'Constructor used to instantiate the attributes
        Case_ID = GenerateID()
        Invest_Surname = InputBox("What is the Surname of the Investigating Officer?",
"Investigating Officer Surname")
        Invest_Rank = InputBox("What is the Rank of the Investigating Officer?",
"Investigating Officer Rank")
        ValofLoss = CDbl(InputBox("What is the Value of Loss?", "Value of Loss"))
    End Sub

    'Properties

    Public ReadOnly Property CaseID() As Integer
        Get
            Return Case_ID
        End Get
    End Property

    Public Property InvestSurname As String
        Get
            Return Invest_Surname
        End Get
        Set(vSurname As String)
            Invest_Surname = vSurname
        End Set
    End Property

    Public Property InvestRank As String
        Get
            Return Invest_Rank
        End Get
        Set(vRank As String)
            Invest_Rank = vRank
        End Set
    End Property

    Public Property ValueOfLoss As Double
        Get
            Return ValofLoss
        End Get
        Set(value As Double)
            ValofLoss = value
        End Set
    End Property
    'Methods

    Public Function CalcOfficerSuccess() As Integer 'This returns a random value
between 10 and 100.
        Return CInt(Math.Floor((100 - 10 + 1) * Rnd())) + 10
    End Function

    Public Overridable Function CalcSuccessFactor() As Double 'This is the Officer's
Success Rate
        Return CalcOfficerSuccess()
    End Function

    Public Function CalcRecovery() As Double 'This is the Success Factor as a
percentage, multiplied with the Value of Loss
        Return (CalcSuccessFactor() / 100) * ValofLoss
    End Function
    Public Shared Function GenerateID() As Integer 'Generates a Crime ID
        If Case_ID = 0 Then
            Return 1
        Else : Return Case_ID + 1
        End If
    End Function
End Class

' ****************************************************************************
' Surname, Initials: ML, Zuze
' Student Number: 201477488
' Practical: P05
' Class name: cFencing
' ****************************************************************************

Option Strict On
Option Explicit On
Option Infer Off

Public Class cFencing
    Inherits cCrime 'used to inherit all the properties, methods and constructor from
the base class
    Private MobilityofGoods As Integer 'used to input a value of the mobility of
goodsa from 1 to 10

    Public Sub New(ByVal Mobility As Integer) 'constructor used to instantiate
attribute
        MobilityofGoods = Mobility
    End Sub

    'Property

    Public Property Mobility As Integer
        Get
            Return MobilityofGoods
        End Get
        Set(vMobility As Integer)
            If vMobility > 10 Then 'Validation
                vMobility = 10
            ElseIf vMobility < 1 Then
                vMobility = 1
            End If
            MobilityofGoods = vMobility
        End Set
    End Property
    'Method

    Public Overrides Function CalcSuccessFactor() As Double 'overrides the base
function and This is the Officer’s Success Rate, minus the mobility of the Goods.
        Return MyBase.CalcSuccessFactor() - MobilityofGoods
    End Function
End Class

' ****************************************************************************
' Surname, Initials: ML, Zuze
' Student Number: 201477488
' Practical: P05
' Class name: cFraud
' ****************************************************************************

Option Strict On
Option Explicit On
Option Infer Off

Public Class cFraud
    Inherits cCrime 'used to inherit all the properties, methods and constructor from
the base class
    Private DaysSinceCrime As Integer 'Used to input the number of days since the
crime

    Public Sub New(ByVal Days As Integer) 'constructor used to instantiate attribute
        DaysSinceCrime = Days
    End Sub

    'Property

    Public Property SinceCrime As Integer
        Get
            Return DaysSinceCrime
        End Get
        Set(vDays As Integer)
            If vDays < 0 Then 'Validation
                vDays = 0
            End If
            DaysSinceCrime = vDays
        End Set
    End Property

    'Methods

    Public Overrides Function CalcSuccessFactor() As Double 'overrides the base
function and This is the Officer’s Success Rate, divided by the number of days since
the crime took place.
        Return MyBase.CalcSuccessFactor() / DaysSinceCrime
    End Function
End Class
```

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' *****************************************************************************
' Surname, Initials: ML, Zuze
' Student Number: 201477488
' Practical: P05
' Class name: cLaundering
' *****************************************************************************

Option Strict On
Option Explicit On
Option Infer Off

Public Class cLaundering
    Inherits cCrime 'used to inherit all the properties, methods and constructor from
the base class
    Private NumDiffCurrencies As Integer 'used to input and display the number of
different currencies involved
    Private NumAccInvolved As Integer 'used to input and display the number of
different accounts involved

    Public Sub New(ByVal Currencies As Integer, ByVal Accounts As Integer)
'constructor used to instantiate the attributes
        NumDiffCurrencies = Currencies
        NumAccInvolved = Accounts
    End Sub

    'Properties

    Public Property DiffCurrencies As Integer
        Get
            Return NumDiffCurrencies
        End Get
        Set(vCurrencies As Integer)
            If vCurrencies < 1 Then 'Validation
                vCurrencies = 1
            End If
            NumDiffCurrencies = vCurrencies
        End Set
    End Property

    Public Property AccInvolved As Integer
        Get
            Return NumAccInvolved
        End Get
        Set(vAccounts As Integer)
            If vAccounts < 1 Then 'Validation
                vAccounts = 1
            End If
            NumAccInvolved = vAccounts
        End Set
    End Property

    'Method

    Public Overrides Function CalcSuccessFactor() As Double 'overrides the base
function and This is the number of different currencies involved, divided by the
number of accountants involved, plus the Officer’s Success Rate.
        Return MyBase.CalcSuccessFactor() + (NumDiffCurrencies / NumAccInvolved)
    End Function
End Class
```

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' *****************************************************************************
' Surname, Initials: ML, Zuze
' Student Number: 201477488
' Practical: P05
' Class name: FrmCCU
' *****************************************************************************

Option Strict On
Option Explicit On
Option Infer Off

Public Class FrmCCU
    Private Fencing As cFencing 'Of type cFencing in order to instantiate a new
Fencing Class
    Private Fraud As cFraud 'Of type cFraud in order to instantiate a new Fraud Class
    Private Laundering As cLaundering 'Of type cLaundering in order to instantiate a
new Laundering Class
    Private Rows As Integer = 0 'Used to increase the amount of Rows everytime a crime
is created

    Private Sub ResizeGrd(ByVal Row As Integer) 'used to resize grid
        GrdDisplay.Rows = Rows + 1
    End Sub
    Private Sub DispInGrd(ByVal Row As Integer, ByVal Col As Integer, ByVal txt As
String) 'In order to display information in the grid
        GrdDisplay.Col = Col
        GrdDisplay.Row = Row
        GrdDisplay.Text = txt
    End Sub
    Private Sub btnFencing_Click(sender As Object, e As EventArgs) Handles
btnFencing.Click
        Dim Mobility As Integer = CInt(InputBox("What is the Mobility of the Goods
(Enter Value between 1 and 10)?", "Mobility of Goods")) 'Prompt for the mobility of
Goods
        Rows += 1
        ResizeGrd(Rows) 'resize grid
        Fencing = New cFencing(Mobility) 'Instantiates a new Fencing Crime
        DispInGrd(Rows, 0, CStr(Fencing.CaseID))
        DispInGrd(Rows, 1, Fencing.InvestRank + ": " + Fencing.InvestSurname)
        DispInGrd(Rows, 2, "R" + CStr(Math.Round(Fencing.ValueOfLoss, 2)))
        DispInGrd(Rows, 3, CStr(Fencing.CalcOfficerSuccess))
        DispInGrd(Rows, 4, CStr(Fencing.CalcRecovery))
    End Sub

    Private Sub btnFraud_Click(sender As Object, e As EventArgs) Handles
btnFraud.Click
        Dim Days As Integer = CInt(InputBox("How many Days has it been Since Crime
took Place?", "Days Since Crime")) 'Prompt for the number of days since crime happened
        Rows += 1
        ResizeGrd(Rows)
        Fraud = New cFraud(Days)
        DispInGrd(Rows, 0, CStr(Fraud.CaseID))
        DispInGrd(Rows, 1, Fraud.InvestRank + ": " + Fraud.InvestSurname)
        DispInGrd(Rows, 2, "R" + CStr(Math.Round(Fraud.ValueOfLoss, 2)))
        DispInGrd(Rows, 3, CStr(Fraud.CalcOfficerSuccess))
        DispInGrd(Rows, 4, CStr(Fraud.CalcRecovery))
    End Sub

    Private Sub btnLaundering_Click(sender As Object, e As EventArgs) Handles
btnLaundering.Click
```

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        Dim Currencies As Integer = CInt(InputBox("How Many Currencies were involved
in the Laundering?", "Number of Different Currencies")) 'Prompt for the number of
currencies involved
        Dim Accounts As Integer = CInt(InputBox("How many Accounts were involved?",
"Number of Accounts")) 'Prompt for the number of accounts involved
        Laundering = New cLaundering(Currencies, Accounts)
        Rows += 1
        ResizeGrd(Rows) 'Resize grid
        DispInGrd(Rows, 0, CStr(Laundering.CaseID))
        DispInGrd(Rows, 1, Laundering.InvestRank + ": " + Laundering.InvestSurname)
        DispInGrd(Rows, 2, "R" + CStr(Math.Round(Fraud.ValueOfLoss, 2)))
        DispInGrd(Rows, 3, CStr(Laundering.CalcOfficerSuccess))
        DispInGrd(Rows, 4, CStr(Laundering.CalcRecovery))
    End Sub

    Private Sub FrmCCU_Load(sender As Object, e As EventArgs) Handles MyBase.Load
'used to add headings to grid
        DispInGrd(0, 0, "Case ID")
        DispInGrd(0, 1, "Rank and Surname of Investigating Officer")
        DispInGrd(0, 2, "Value of Loss")
        DispInGrd(0, 3, "Success Rate of the Officer")
        DispInGrd(0, 4, "Value Recovered")
    End Sub
End Class
```