Function **PennDensity** (z() As Double, Comp_Prop As Component_Properties, T As Double, P As Double, Settings As Flash_Settings) As Double

Function **PennFlash** (z() As Double, Comp_Prop As Component_Properties, T As Double, P As Double, Settings As Flash_Settings, Optional Initial_k As Variant) As Flash_Results

Function **PennMMP** (z() As Double, Oil_Prop As Component_Properties, Gas_Prop As Component_Properties, T As Double, F_Settings As Flash_Settings, M_Settings As MMP_Settings) As MMP_Results

Function **PennStable** (z_() As Double, Comp_Prop As Component_Properties, T As Double, P As Double, Settings As Flash_Settings, Optional Initial_k As Variant) As Variant

Function **PennViscosity** (z() As Double, Comp_Prop As Component_Properties, T As Double, P As Double, Settings As Flash_Settings, LBC_JST As String, Vc() As Double, Optional Coeff As Variant) As Double

Defined types:
Public Type Component_Properties
    Comp_Name() As String
    Tc() As Double
    Pc() As Double
    w() As Double
    BIP() As Double
    VolShift() As Variant
    Mw As Variant
    Omega_a() As Variant
    Omega_b() As Variant
End Type

Public Type Flash_Settings
    EOS As String
    Switch_Tolerance As Double
    Final_Tolerance As Double
    R As Double 'gas constant
    Units As String 'future use
End Type

Public Type Flash_Results
    x() As Double
    y() As Double
    k() As Double
    f_L() As Double
    f_V() As Double
    L As Double
    V As Double
    ro_L As Double
    ro_V As Double
    Mw_L As Double
Public Type MMP_Results
    Upper_P As Double
    Lower_P As Double
    Min_tie_length As Double
    Condensing_Percentage As Double
    Tie_length() As Double
    K_values() As Double
    ErrorCode As Integer
    ErrorText As String
End Type

Public Type MMP_Settings
    Initial_P As Double
    Store_Data As Boolean
    ByPassStability As Boolean
    Min_tie_Switch As Double
    Min_PMM_P As Double
    Min_Pressure_Jump As Double
End Type