Load Items: Floor Load

Functions

afx_msg VARIANT	**OSLoadUI::AddMemberFloorLoad** (const VARIANT FAR &dPressure, const VARIANT FAR &dYMIN, const VARIANT FAR &dYMAX, const VARIANT FAR &dZMIN, const VARIANT FAR &dZMAX, const VARIANT FAR &dXMIN, const VARIANT FAR &dXMAX) Automatically finds enclosed panels in the given boundary (specified using max and min X, Y, Z range inputs) and adds a FLOOR LOAD. Generated floor load is applied only in the Global X direction with YRANGE option.
afx_msg VARIANT	**OSLoadUI::GetBeamCountAtFloor** (const VARIANT FAR &fMinX, const VARIANT FAR &fMaxX, const VARIANT FAR &fMinY, const VARIANT FAR &fMaxY, const VARIANT FAR &fMinZ, const VARIANT FAR &fMaxZ, const VARIANT FAR &nDirection) Get the beam count at the specific floor.
afx_msg VARIANT	**OSLoadUI::GetInfluenceArea** (const VARIANT FAR &fMinX, const VARIANT FAR &fMaxX, const VARIANT FAR &fMinY, const VARIANT FAR &fMaxY, const VARIANT FAR &fMinZ, const VARIANT FAR &fMaxZ, const VARIANT FAR &nDirection, VARIANT FAR &nBeamNos, VARIANT FAR &nAreas) Get Influence Area at the specific floor.
afx_msg VARIANT	**OSLoadUI::AddMemberFloorLoadEx** (const VARIANT FAR &varRange, const VARIANT FAR &varDirection, const VARIANT FAR &dPressure, const VARIANT FAR &varGrpOrOneWay, const VARIANT FAR &dYMIN, const VARIANT FAR &dYMAX, const VARIANT FAR &dZMIN, const VARIANT FAR &dZMAX, const VARIANT FAR &dXMIN, const VARIANT FAR &dXMAX) Automatically finds enclosed panels in the given boundary (specified using max and min of X/Y /Z range inputs and varRange) and if varRange is 3 adds member group FLOOR LOAD (specified by GrpOrOneWay input). Otherwise adds a FLOOR LOAD with pressure (dPressure) in the Global X/Y/Z direction (as specified by Direction input) with RANGE option.

Detailed Description

These functions are related to floor load.

Function Documentation

◆ AddMemberFloorLoad()

```
VARIANT OSLoadUI::AddMemberFloorLoad ( const VARIANT FAR & varPressure,
                                       const VARIANT FAR & varYMIN,
                                       const VARIANT FAR & varYMAX,
                                       const VARIANT FAR & varZMIN,
                                       const VARIANT FAR & varZMAX,
                                       const VARIANT FAR & varXMIN,
                                       const VARIANT FAR & varXMAX )
```

Automatically finds enclosed panels in the given boundary (specified using max and min X, Y, Z range inputs) and adds a FLOOR LOAD. Generated floor load is applied only in the Global X direction with YRANGE option.

Parameters

[in]	**varPressure**	Magnitude of the pressure or concentrate load on the element.
[in]	**varYMIN**	Y range from which the load start (in global coordinate).
[in]	**varYMAX**	Y range at which the load end (in global coordinate).
[in]	**varZMIN**	Z range from which the load start (in global coordinate).
[in]	**varZMAX**	Z range at which the load end (in global coordinate).
[in]	**varXMIN**	X range from which the load start (in global coordinate).
[in]	**varXMAX**	X range at which the load end (in global coordinate). For additional information, please refer to Section 5.32.4.2 and 5.32.4.3 of the Technical Reference manual.

Return values

1	OK.
0	General error.
-8001	Load direction is invalid.

C++ Syntax

```
// Add floor load with pressure of -2.0 units in Global X direction with Y Range Option
       within Y Range -10 to 0, Z Range 0 to 20, X Range 0 to 50.
VARIANT RetVal = OSLoadUI::AddMemberFloorLoad(-2.0, -10.0, 0.0, 0.0, 20.0, 0.0, 50.0);
```

VBA Syntax

```
' Add floor load with pressure of -2.0 units in Global X direction with Y Range option
       within Y Range -10 to 0, Z Range 0 to 20, X Range 0 to 50 in selected Load Case
       number 2.
Option Explicit

  Sub Main
      Dim objOpenStaad As Object
     Dim stdFile As String

      Set objOpenStaad = GetObject(,"StaadPro.OpenSTAAD")
      objOpenStaad.GetSTAADFile stdFile, "TRUE"
      If stdFile="" Then
```

```
            MsgBox"Bad"
            Set objOpenStaad = Nothing
            Exit Sub
        End If

        Dim RetVal2 As Variant
        RetVal2 = objOpenStaad.Load.SetLoadActive(2)
        Dim RetVal As Variant
        RetVal = objOpenStaad.Load.AddMemberFloorLoad(-2.0, -10.0, 0.0, 0.0, 20.0, 0.0,
          50.0)
        Set objOpenStaad = Nothing
    End Sub
```

AddMemberFloorLoadEx()

```
VARIANT OSLoadUI::AddMemberFloorLoadEx ( const VARIANT FAR & varRange,
                                         const VARIANT FAR & varDirection,
                                         const VARIANT FAR & dPressure,
                                         const VARIANT FAR & varGrpOrOneWay,
                                         const VARIANT FAR & dYMIN,
                                         const VARIANT FAR & dYMAX,
                                         const VARIANT FAR & dZMIN,
                                         const VARIANT FAR & dZMAX,
                                         const VARIANT FAR & dXMIN,
                                         const VARIANT FAR & dXMAX )
```

Automatically finds enclosed panels in the given boundary (specified using max and min of X/Y /Z range inputs and varRange) and if varRange is 3 adds member group FLOOR LOAD (specified by GrpOrOneWay input). Otherwise adds a FLOOR LOAD with pressure (dPressure) in the Global X/Y/Z direction (as specified by Direction input) with RANGE option.

Parameters

`[in]` **varRange** Type of the Range :

Value	Range Type
0	X-RANGE
1	Y-RANGE
2	Z-RANGE
3	Group Load

`[in]` **varDirection** Load direction :

Value	Direction
0	Global X
1	Global Y
2	Global Z

`[in]` **dPressure** Magnitude of the pressure or concentrate load on the element.(type - float/double).

`[in]` **varGrpOrOneWay** One-Way Load (if it is either "" or "0") or corresponding group name to add Floor Group Load (if it contains Group string name).(type - String). Note, group name should be of FLOOR group type.

`[in]` **dYMIN** Y range from which the load start(in global coordinate). (type - float/double).

`[in]` **dYMAX** Y range at which the load end(in global coordinate). (type - float/double).

`[in]` **dZMIN** Z range from which the load start(in global coordinate). (type - float/double).

`[in]` **dZMAX** Z range at which the load end(in global coordinate). (type - float/double).

`[in]` **dXMIN** X range from which the load start(in global coordinate). (type - float/double).

[in] **dXMAX** X range at which the load end(in global coordinate). (type - float/double). For additional information, please refer to Section 5.32.4.2 and 5.32.4.3 of the Technical Reference manual.

Return values

1 OK.

0 General error.

C++ Syntax

```
// Add member group "FloorGroup1" floor load with pressure of -2.0 units in global Y
       direction  within Y Range -2 to 0, Z Range 0 to 10, X Range 0 to 50.
VARIANT RetVal = OSLoadUI::AddMemberFloorLoadEx(3, 1, -2.0, (LPCTSTR)"FloorGroup1", -2.0,
       0.0, 0.0, 10.0, 0.0, 50.0);
```

.

VBA Syntax

```
' Add floor load with pressure of 2.0 units in global Y direction  within Y Range -2 to
       2, Z Range 0 to 10, X Range 0 to 50 in selected Load Case number 2.
Option Explicit

   Sub Main
       Dim objOpenStaad As Object
       Dim stdFile As String

       Set objOpenStaad = GetObject(,"StaadPro.OpenSTAAD")
       objOpenStaad.GetSTAADFile stdFile, "TRUE"
       If stdFile="" Then
           MsgBox"Bad"
           Set objOpenStaad = Nothing
           Exit Sub
       End If
       Dim RetVal2 As Variant
       RetVal2 = objOpenStaad.Load.SetLoadActive(2)
       Dim RetVal As Variant
       RetVal = objOpenStaad.Load.AddMemberFloorLoadEx(1, 1, 2.0, " ", -2.0, 2.0, 0.0,
       10.0, 0.0, 50.0)
       Set objOpenStaad = Nothing
   End Sub
```

◆ GetBeamCountAtFloor()

```
VARIANT OSLoadUI::GetBeamCountAtFloor ( const VARIANT FAR & fMinX,
                                        const VARIANT FAR & fMaxX,
                                        const VARIANT FAR & fMinY,
                                        const VARIANT FAR & fMaxY,
                                        const VARIANT FAR & fMinZ,
                                        const VARIANT FAR & fMaxZ,
                                        const VARIANT FAR & nDirection )
```

Get the beam count at the specific floor.

Parameters

[in]	**varfMinX**	X range start (in global coordinate).(Type: float)
[in]	**varfMaxX**	X range end (in global coordinate).(Type: float)
[in]	**varfMinY**	Y range start (in global coordinate).(Type: float)
[in]	**varfMaxY**	Y range end (in global coordinate).(Type: float)
[in]	**varfMinZ**	Z range start (in global coordinate).(Type: float)
[in]	**varfMaxZ**	Z range end (in global coordinate).(Type: float)
[in]	**varnDirection**	Direction(1 for XRange, 2 for YRange, 3 for ZRange).(Type: Long/Integer)

Returns

the beam count at the specific floor.(Type: Long/Integer).

VBA Syntax

```
Option Explicit
 Sub Main
     Dim objOpenStaad As Object
     Dim stdFile As String
     Set objOpenStaad = GetObject(,"StaadPro.OpenSTAAD")
     objOpenStaad.GetSTAADFile stdFile, "TRUE"
     If stdFile="" Then
         MsgBox"Bad"
         Set objOpenStaad = Nothing
         Exit Sub
     End If
     Dim count As Integer
     count = objOpenStaad.Load.GetBeamCountAtFloor(-0.5, 260, -0.5, 0.5,-0.5,500, 3)
     Set objOpenStaad = Nothing
 End Sub
```

◆ GetInfluenceArea()

```
VARIANT OSLoadUI::GetInfluenceArea ( const VARIANT FAR & varfMinX,
                                     const VARIANT FAR & varfMaxX,
                                     const VARIANT FAR & varfMinY,
                                     const VARIANT FAR & varfMaxY,
                                     const VARIANT FAR & varfMinZ,
                                     const VARIANT FAR & varfMaxZ,
                                     const VARIANT FAR & varnDirection,
                                     VARIANT FAR &       varnBeamNos,
                                     VARIANT FAR &       varAreas )
```

Get Influence Area at the specific floor.

Parameters

[in]	**varfMinX**	X range start (in global coordinate).(Type: float)
[in]	**varfMaxX**	X range end (in global coordinate).(Type: float)
[in]	**varfMinY**	Y range start (in global coordinate).(Type: float)
[in]	**varfMaxY**	Y range end (in global coordinate).(Type: float)
[in]	**varfMinZ**	Z range start (in global coordinate).(Type: float)
[in]	**varfMaxZ**	Z range end (in global coordinate).(Type: float)
[in]	**varnDirection**	Direction(1 for XRange, 2 for YRange, 3 for ZRange).(Type: Long/Integer)
[out]	**varnBeamNos**	Influence Beam No Array.(Type: Long Array)
[out]	**varAreas**	Influence Area Array.(Type: Double Array)

Return values

1(TRUE) Get Influence Area Successful.

0(FALSE) Generate Error.

VBA Syntax

```
Option Explicit
 Sub Main
     Dim objOpenStaad As Object
     Dim stdFile As String
     Set objOpenStaad = GetObject(,"StaadPro.OpenSTAAD")
     objOpenStaad.GetSTAADFile stdFile, "TRUE"
     If stdFile="" Then
         MsgBox"Bad"
         Set objOpenStaad = Nothing
         Exit Sub
     End If
     Dim count As Integer
     count = objOpenStaad.Load.GetBeamCountAtFloor(-0.5, 260, -0.5, 0.5,-0.5,500, 3)
     Dim beams() As Long
     ReDim beams(count)
     Dim area() As Double
     ReDim area(count)
```

```
    objOpenStaad.Load.GetInfluenceArea(-0.5, 260, -0.5, 0.5,-0.5,500, 2, beams, area)
    Set objOpenStaad = Nothing
End Sub
```