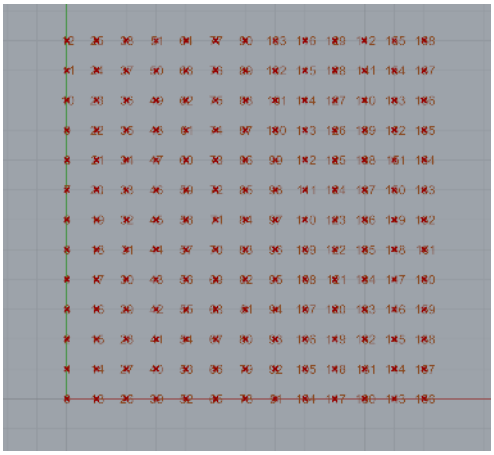
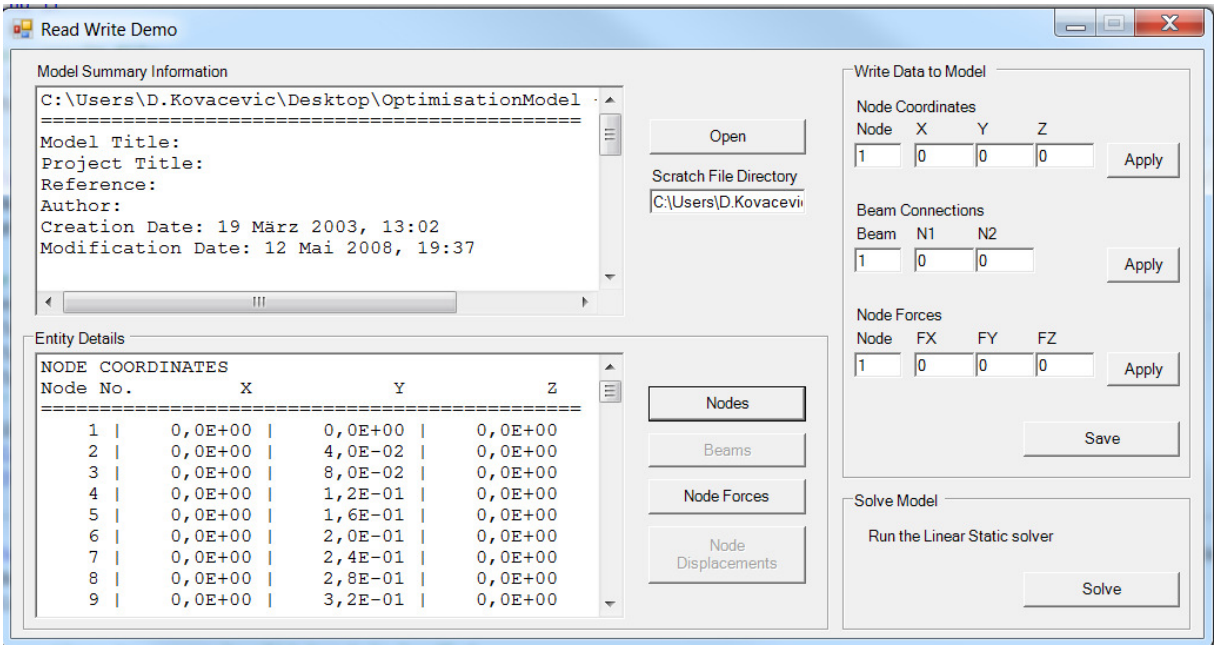
My Goal:

Open Strand7 Window and define those points (169 points) from Grasshopper as a Node in Strand7.



Helping Material to learn how the API works: Example with code VB. I opened it in Visual Studio, GUI looks like that (look below). Example application reads al nodes from opened File and let use change coordinates of defined node. Section of code for dealing with nodes is also below.



Reading nodes:

```
Dim i As Int32, j As Int32, iErr As Int32
Dim XYZ(2) As Double
Dim str As String

If FNodeTotal > 500 Then
    j = 500
Else
    j = FNodeTotal
End If
str = "NODE COORDINATES" & vbCrLf
str = str & "Node No.         X             Y             Z" & vbCrLf
str = str & "=============================================" & vbCrLf
For i = 1 To j
    iErr = St7GetNodeXYZ(1, i, XYZ(0))
    If HandleError(iErr) Then
        Exit For
    End If
    str = str _
        & TextRJust(CStr(i), 5) & " |" _
        & TextRJust(Format(XYZ(0), "0.0###E+00"), 11) & " |" _
        & TextRJust(Format(XYZ(1), "0.0###E+00"), 11) & " |" _
        & TextRJust(Format(XYZ(2), "0.0###E+00"), 11) & vbCrLf
Next i
tbDetails.Text = str
```

Writing new node coordinate:

```
Private Sub btnNodeCoordApply_Click(ByVal sender As System.Obj
    Dim NodeNum As Int32, iErr As Int32
    Dim XYZ(2) As Double

    ' use routines to ensure invalid input is handled
    If TextToInt(tbNCNode.Text, NodeNum) And _
        TextToFloat(tbNCX.Text, XYZ(0)) And _
        TextToFloat(tbNCY.Text, XYZ(1)) And _
        TextToFloat(tbNCZ.Text, XYZ(2)) Then
        ' set the information
        iErr = St7SetNodeXYZ(1, NodeNum, XYZ(0))
        Call HandleError(iErr)
    End If
End Sub
```

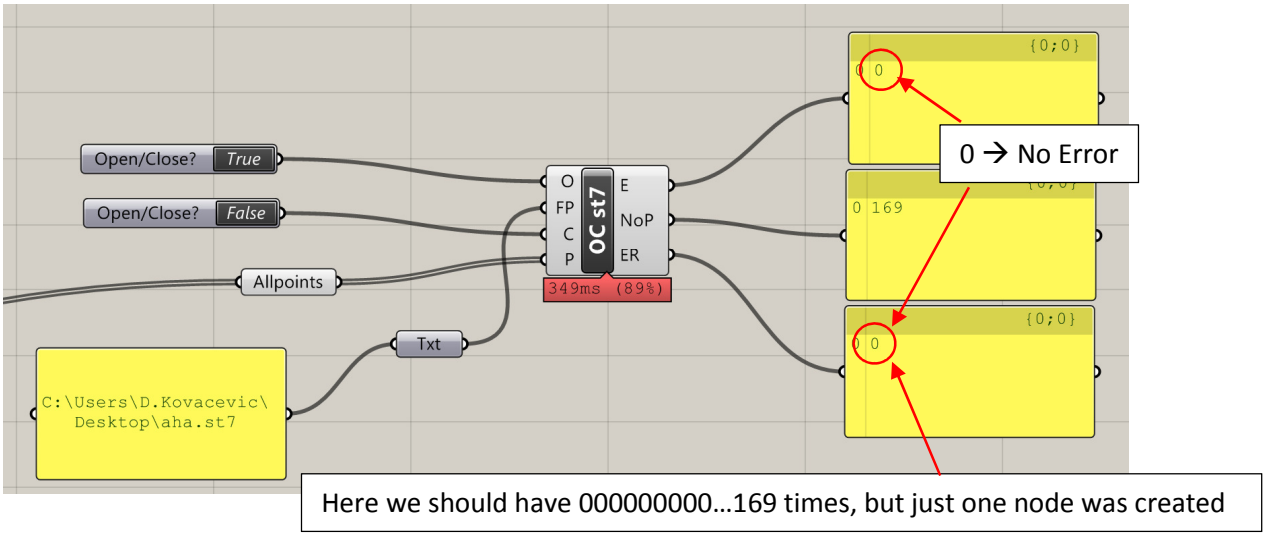
I started to develop my GH component in Visual Basic 2012:

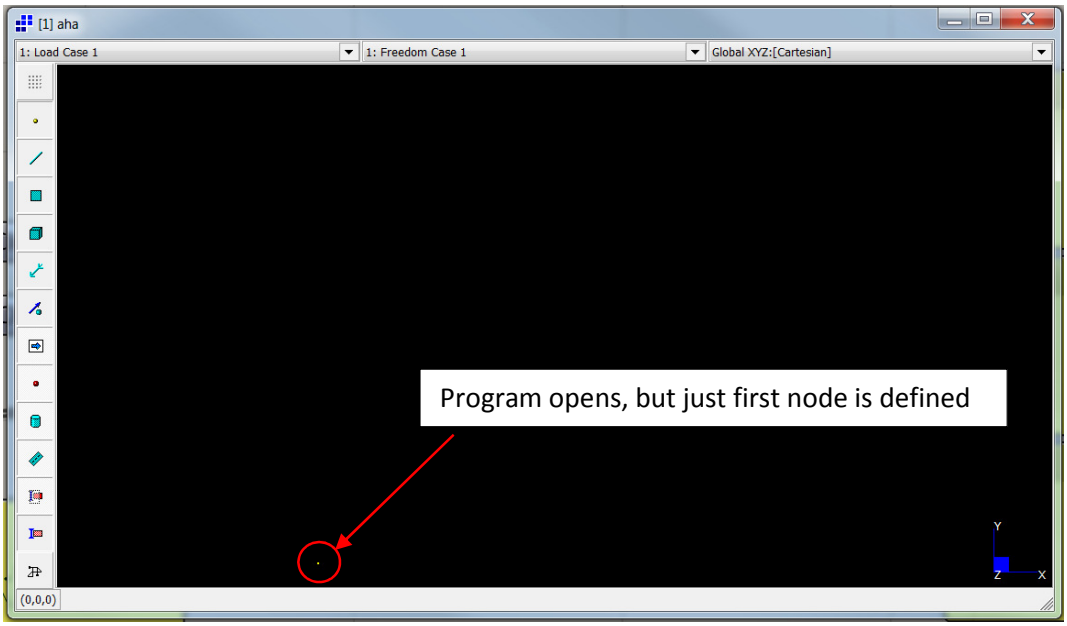
Part of code is below:

```
Protected Overrides Sub RegisterInputParams(pManager As GH_Component.GH_InputParamManager)
    pManager.AddBooleanParameter("Boolean", "O", "open?", GH_ParamAccess.item)
    pManager.AddTextParameter("FilePath", "FP", "St7InsertCombinationEnvelope full Path", GH_ParamAccess.item)
    pManager.AddBooleanParameter("Boolean", "C", "save and close?", GH_ParamAccess.item)
    pManager.AddPointParameter("Points", "P", "insert points", GH_ParamAccess.list)
End Sub
```

```
Protected Overrides Sub RegisterOutputParams(pManager As GH_Component.GH_OutputParamManager)
    pManager.AddIntegerParameter("Error", "E", "Errornumber", GH_ParamAccess.item)
    pManager.AddIntegerParameter("Nop", "NoP", "FormatNumber of points", GH_ParamAccess.item)
    pManager.AddTextParameter("Nop", "ER", "FormatNumber of points", GH_ParamAccess.item)
End Sub
```

```
Protected Overrides Sub SolveInstance(DA As IGH_DataAccess)


    Call St7Init()

    Dim open As Boolean = False
    Dim fileName As String = ""
    Dim iErr As Integer
    Dim iErr1 As Integer
    Dim close As Boolean = False
    Dim points As New List(Of Point3d)

    Dim noP As Integer = 169
    Dim onePoint As Point3d
    Dim XYZ(2) As Double
    Dim Errtxt As String = ""
    Dim i As Integer

    If (Not DA.GetData(0, open)) Then Return
    If (Not DA.GetData(1, fileName)) Then Return
    If (Not DA.GetData(2, close)) Then Return
    If (Not DA.GetDataList(3, points)) Then Return

    If open = True Then
        iErr = St7NewFile(1, fileName, "C:\Users\D.Kovacevic\AppData\Local\Temp")
        Call St7CreateModelWindow(1)
        Call St7ShowModelWindow(1)
        DA.SetData(0, iErr)
        DA.SetData(1, noP)

        Console.WriteLine("Hello world")

        For i = 1 To noP
            onePoint = points.Item(i - 1)
            XYZ(0) = onePoint.X
            XYZ(1) = onePoint.Y
            XYZ(2) = onePoint.Z
            Console.WriteLine(XYZ)
            iErr1 = St7SetNodeXYZ(1, i, XYZ(0))
            Errtxt = Errtxt & iErr1
            Console.WriteLine(Errtxt)
            Exit For

        Next

        DA.SetData(2, Errtxt)

    End If

    If close = True Then
        Call St7SaveFile(1)
        Call St7DestroyModelWindow(1)
        Call St7CloseFile(1)
        Call St7Release()
    End If
End Sub
```





It seems that FOR Loop is not working!

(btw. Part of code for saving and closing file is working just fine)