

```

1 Imports System.Collections.Generic
2
3 Imports Grasshopper.Kernel
4 Imports Rhino.Geometry
5 Imports Interop.gsa_8_7
6 Imports UsageDataCollection
7
8
9
10 Public Class GetElementNumbers
11     Inherits GH_Component
12     ''' <summary>
13     ''' Each implementation of GH_Component must provide a public
14     ''' constructor without any arguments.
15     ''' Category represents the Tab in which the component will appear,
16     ''' Subcategory the panel. If you use non-existing tab or panel names,
17     ''' new tabs/panels will automatically be created.
18     ''' </summary>
19     Public Sub New()
20         MyBase.New("Get Element Numbers", "ElNums", _
21             "Import Element Numbers from GSA File", _
22             "GsaComTools", "Elements")
23     End Sub
24
25     ''' <summary>
26     ''' Registers all the input parameters for this component.
27     ''' </summary>
28     Protected Overrides Sub RegisterInputParams(pManager As GH_Component.GH_InputParamManager)
29         ' Use the pManager object to register your input parameters.
30         ' You can often supply default values when creating parameters.
31         ' All parameters must have the correct access type. If you want
32         ' to import lists or trees of values, modify the ParamAccess flag.
33         pManager.AddGenericParameter("Gsa", "Gsa", "Gsa COM Object", GH_ParamAccess.item)
34         pManager.AddTextParameter("List", "List", "List name or number (all records will be returned if left blank)", GH_ParamAccess.item)
35
36         ' If you want to change properties of certain parameters,
37         ' you can use the pManager instance to access them by index:
38         pManager(1).Optional = True
39     End Sub
40
41     ''' <summary>
42     ''' Registers all the output parameters for this component.
43     ''' </summary>
44     Protected Overrides Sub RegisterOutputParams(pManager As GH_Component.GH_OutputParamManager)
45         ' Use the pManager object to register your output parameters.
46         ' Output parameters do not have default values, but they too must have the correct access type.
47         pManager.AddGenericParameter("Gsa", "Gsa", "Gsa COM Object", GH_ParamAccess.item)
48         pManager.AddIntegerParameter("Element Numbers", "ElNums", "Element Numbers", GH_ParamAccess.list)
49

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50 ' Sometimes you want to hide a specific parameter from the Rhino preview.
51 ' You can use the HideParameter() method to do this easily
52 'pManager.HideParameter(0)
53 End Sub
54
55 ''' <summary>
56 ''' This is the method that actually does the work.
57 ''' </summary>
58 ''' <param name="DA">The DA object can be used to retrieve data from input ↗
    parameters and
59 ''' to store data in output parameters.</param>
60 Protected Overrides Sub SolveInstance(DA As IGH_DataAccess)
61
62     'Declare Variables
63     Dim FileName As String = ""
64     Dim ElemRefs() As Integer
65     Dim s As Short
66     Dim sList As String
67     Dim myDataCollector As New DataCollector
68     Dim myObjectWrapper As Types.GH_ObjectWrapper
69
70
71     'Import GSA File Name
72     If (Not DA.GetData(0, myObjectWrapper)) Then Return
73     If (Not DA.GetData(1, sList)) Then sList = "all"
74
75     Dim GsaObj As ComAuto = TryCast(myObjectWrapper.Value, ComAuto)
76
77     'Get Entities
78     s = GsaObj.EntitiesInList(sList, GsaEntity.ELEMENT, ElemRefs)
79
80     'Sort Array
81     Array.Sort(ElemRefs)
82
83     ' Assign the data to the output parameter.
84     DA.SetData(0, GsaObj)
85     DA.SetDataList(1, ElemRefs)
86
87     'Send Usage Data
88     myDataCollector.UsageStatistics("GetElementNumbers")
89
90 End Sub
91
92 ''' <summary>
93 ''' The Exposure property controls where in the panel a component icon
94 ''' will appear. There are seven possible locations (primary to ↗
    septenary),
95 ''' each of which can be combined with the GH_Exposure.obscure flag, which ↗
    ensures the component will only be visible on panel dropdowns.
96 ''' </summary>
97
98 Public Overrides ReadOnly Property Exposure() As GH_Exposure
99     Get
100         Return GH_Exposure.primary
101     End Get
102 End Property

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103
104
105     ''' <summary>
106     ''' Provides an Icon for every component that will be visible in the User  ➤
107         Interface.
108     ''' </summary>
109     Protected Overrides ReadOnly Property Icon() As System.Drawing.Bitmap
110     Get
111         'You can add image files to your project resources and access them like  ➤
112             this:
113         ' return Resources.IconForThisComponent;
114         Return My.Resources.Element_ElNums
115     End Get
116 End Property
117
118     ''' <summary>
119     ''' Each component must have a unique Guid to identify it.
120     ''' It is vital this Guid doesn't change otherwise old ghx files
121     ''' that use the old ID will partially fail during loading.
122     ''' </summary>
123     Public Overrides ReadOnly Property ComponentGuid() As Guid
124     Get
125         Return New Guid("{1004e40b-55c6-4908-a0bf-dc3d790f2831}")
126     End Get
127 End Property
End Class
```