



USER MANUAL

PLPak Version 1.01

**STRUCTURAL ANALYSIS SOFTWARE USING BOUNDARY ELEMENTS
METHOD**

PLPAK basic tutorials

Tutorial 5 – PLGen edit mode

CONTACT DETAILS:

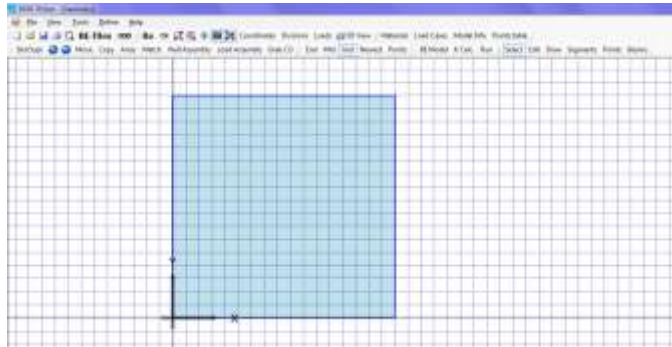
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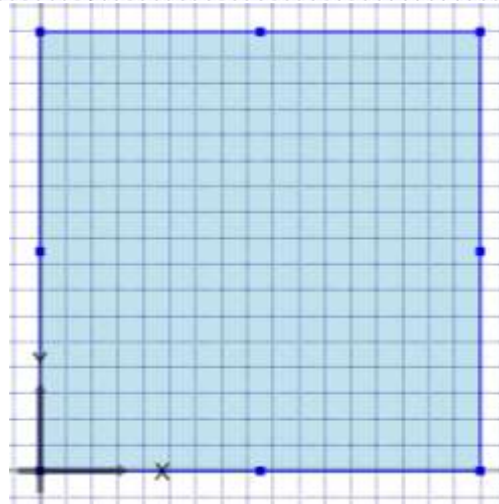
Tutorial 5

The objective of this tutorial is to create circular slabs and columns.

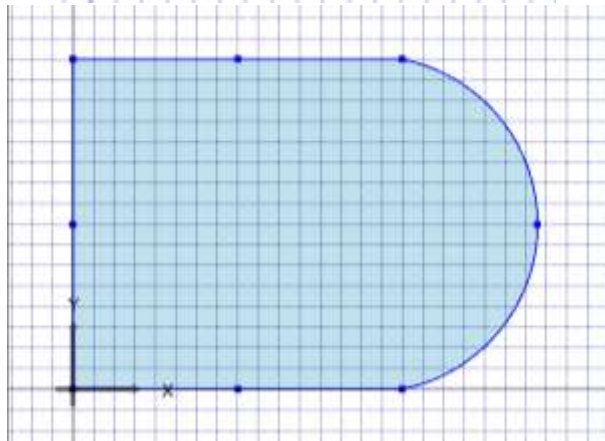
I – Start PLGen, draw a square slab and define it.



II – Click on Edit mode and nodes will appear as shown. Be careful to define the slab first before editing it for the centre nodes to appear.



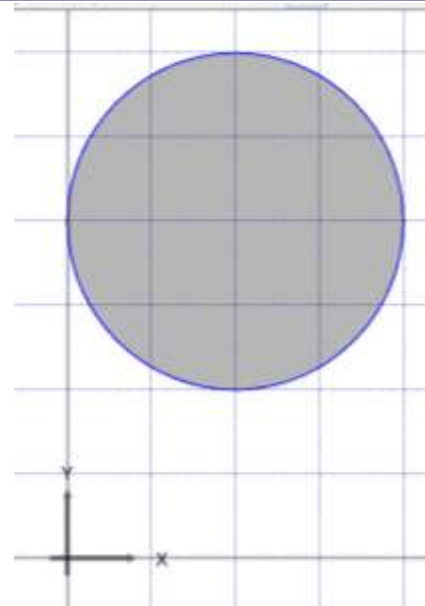
III – Double-click on any centre node and drag it to form the desired curved shape.



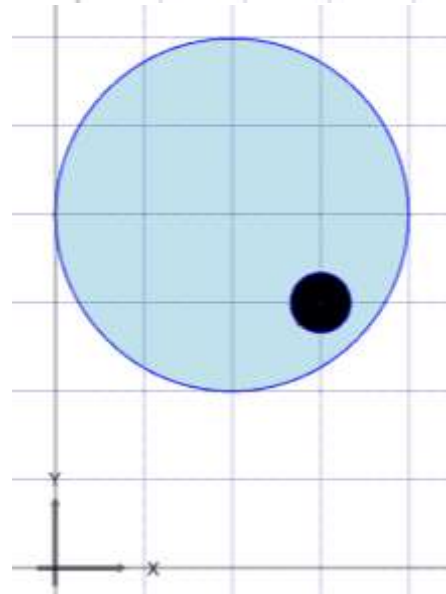
IV – For better accuracy we can define the point at which we want the curve to reach. For example in a new plot we will define the points (2, 0) and (2, 2). Click on Points Table in the top bar and insert these points. Scroll up and down and they will appear.

	X	Y	OrderedPair
▶	2	2	2,2
	0	2	0,2
*			

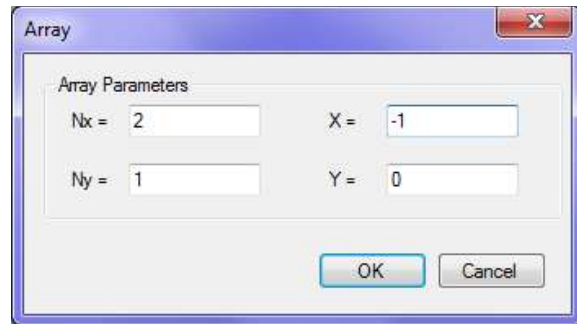
V – Click on the Draw mode and snap on points then click on the centre point and click the mouse while holding down the shift key. A 4 m diameter circle automatically takes form. Define it as a slab.



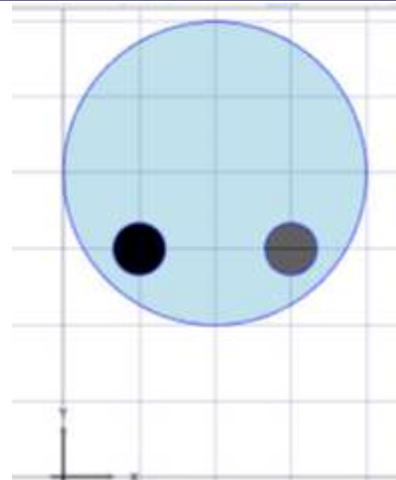
VI – To create circular columns insert point coordinates (1.5,1.5) and (1.375,1.375) .Scroll up and down till they appear then click on the centre point and click the mouse while holding down the shift key to create the column circle. Define it as a column.



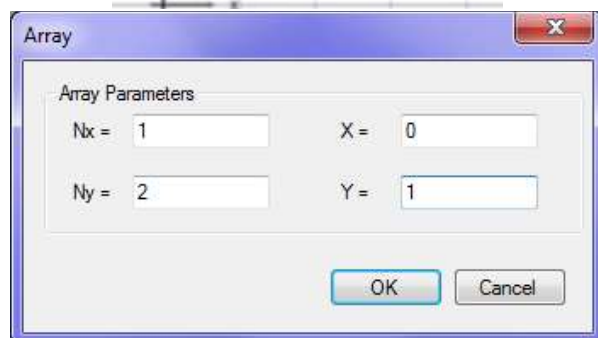
VII – To create two columns use the Array function such that the N_x is 2 and the distance to the duplicate is 1m in the negative direction.



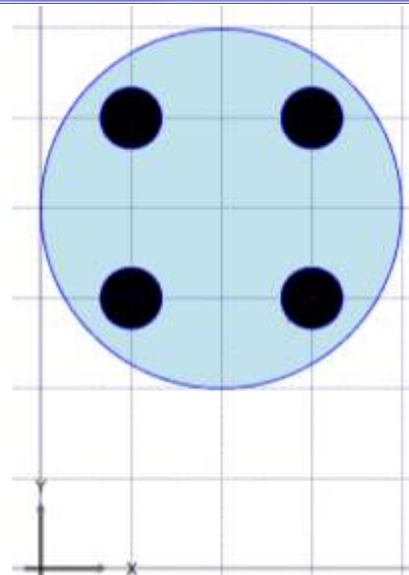
VIII – The plot becomes as shown.



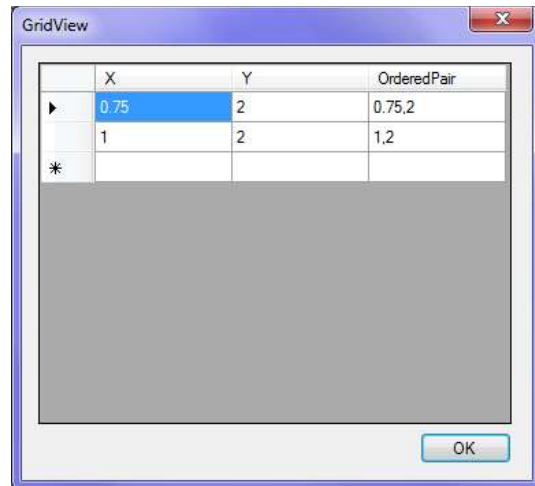
IX – To create the other two columns select the existing columns and click Array. In the Array box put 2 in N_y and the distance to the duplicate is 1m in the positive direction.



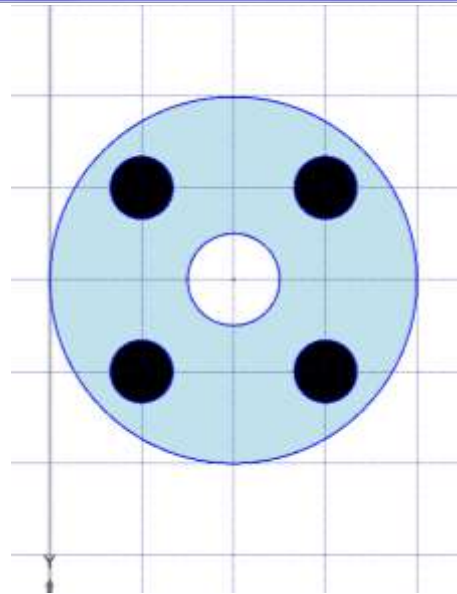
X – The plot becomes as shown.



XI – To create an opening in the centre insert the points (0.75, 2) and (1, 2). Delete the previous points since they are of no need now. Scroll up and down till the points appear.



XII – Draw a circle through the points with (1, 2) the centre and define it as an opening such the plot becomes as shown.



XIII – The 3-D view helps in visualising the structure click 3D View and the shown plot appears. Here it clearly shows the four columns and the opening in the centre of the slab.

