

Practice Exercise 4

Families



Objective Domains that are covered within this practice exercise are:

- 2.1b Understand concepts of family categories and types
- 2.1c Differentiate between various types of families
- 2.3a Select the appropriate family template
- 2.3b Add reference planes, lines, and dimensions
- 2.3c Create geometry
- 2.3d Associate dimensional parameters

Video resources that may help with this practice exercise are:

- Create family content
- Family visibility
- Family parameters with formulas

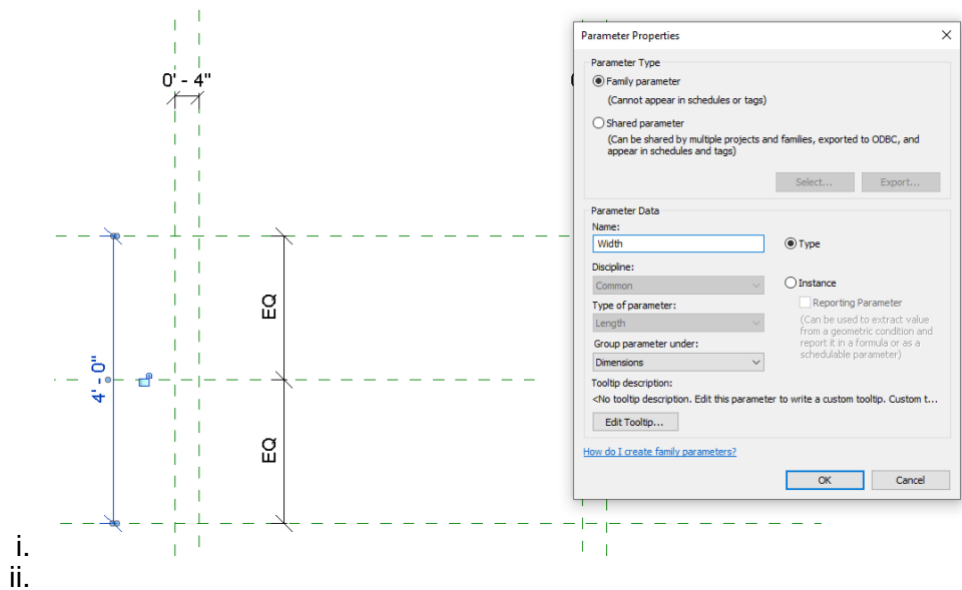
This exercise is an overview on the creation of simple 3D parametric families. The purpose of the exercise is not to model a family in the most efficient way possible, but to explore the techniques available in the creation of Revit families. You will create two families including a parametric model family and a custom annotation family. You'll create a Revit family that uses the Array tool with a formula to define the number of objects across a given distance (a table that adds legs as it gains length).

The following steps need to be completed:

1. Create a new Family using the Furniture Family template.
2. Create additional Reference planes for table edges, and the width of the table legs. Ensure that the planes have been dimensioned appropriately so that the table is aligned to the origin on the left and the top and bottom reference planes are equally distant from the middle reference plane.
3. Add a new Parameter by selecting the dimension from the top and bottom reference planes, and then selecting new parameter. Name this parameter Width.

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4. Do the same for the horizontal dimension that is representing the length of the table, and name it Length.
5. Create a new Extrusion. Trace the rectangle created by the Reference Planes.
6. Lock all padlocks so that the edges of the extrusions are locked to the Reference planes. Adjust the start and end elevations to be 2'-10" and 3'-0".
7. Create a new extrusion. This extrusion should represent two legs of the table, 4" x 4". Lock and dimension all sides of the two square boundaries.
8. Adjust the extrusion start and end to be 0'-0" and 2'-10".
9. Create an array so that the new table legs are aligned with the right side of the tabletop extrusion. Lock that alignment.
10. Create a new parameter value by selecting the array and name the parameter NumberOfLegs. Set "Group parameter under" to Identity Data.
11. Change the Formula of NumberOfLegs so that it is linked to Length. Use the formula: $\text{= Length} / 2'$.
12. Change the Length parameter to 10'-0". The table will add additional legs and look like the following:

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