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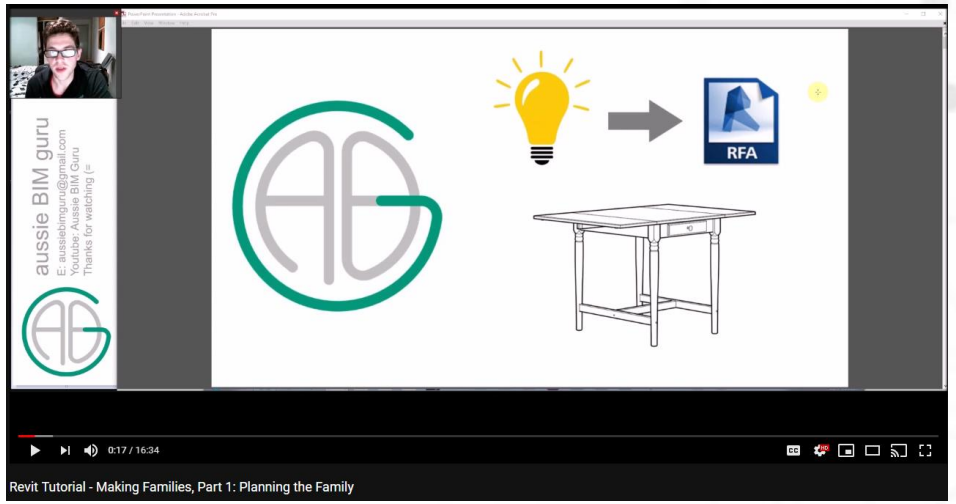
Previous Videos



Revit Tutorial - Making Families, **Part 1: Planning the Family**
Revit Tutorial - Making Families, **Part 2: Geometry & Constraints**
Revit Tutorial - Making Families, **Part 3: Adding Parameters**
Revit Tutorial - Making Families, **Part 4: Graphics/Final Touches**

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Lookup Tables

Revit Content Creation

Advanced technique

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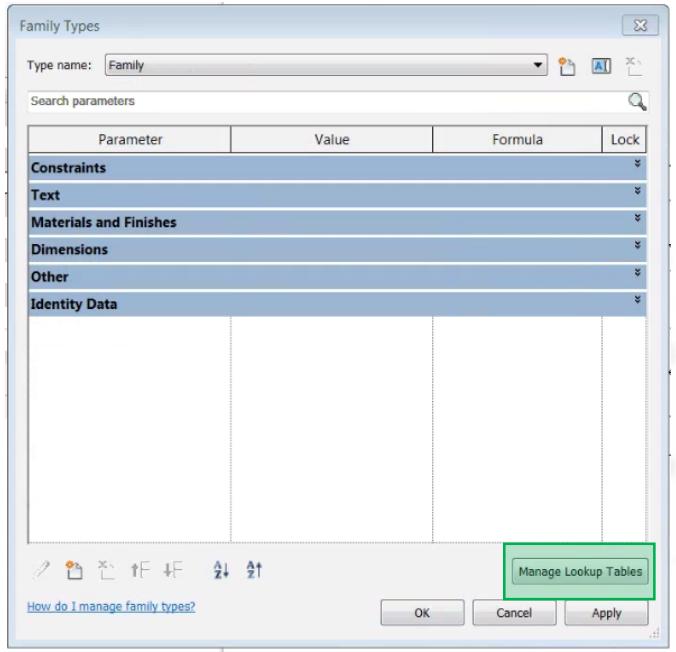
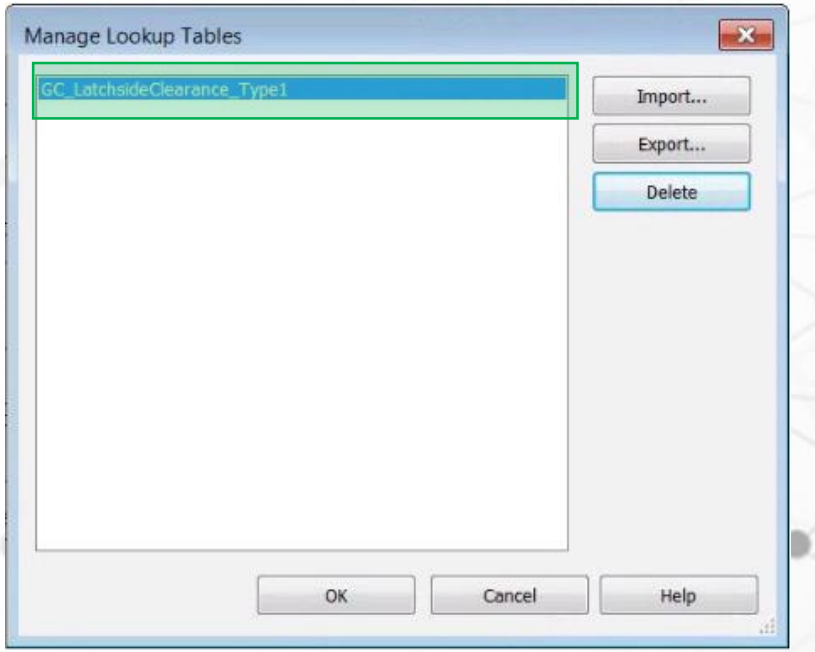
What is a Lookup Table

Nested table in a family

Looks up values based on a ‘handle’





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What is a Lookup Table

	A	B	C	D	E	F
1		CF##length##millimeters	D##length##millimeters	L##length##millimeters	WH##length##millimeters	WL##length##millimeters
2	1.085	10850	850	1220	560	340
3	1.09	10900	900	1185	510	340
4	1.095	10950	950	1160	460	340
5	1.1	11000	1000	1140	410	340
6	2.085	20850	850	1240	240	660
7	2.09	20900	900	1210	190	660
8	2.095	20950	950	1175	140	660
9	2.1	21000	1000	1155	90	660
10	3.085	30850	850	1240	560	660
11	3.09	30900	900	1210	510	660
12	3.095	30950	950	1175	460	660
13	3.1	31000	1000	1155	410	660
14	4.085	40850	850	1450	0	510
15	4.09	40900	900	1450	0	510
16	4.095	40950	950	1450	0	510
17	4.1	41000	1000	1450	0	510
18	5.085	50850	850	1670	660	900

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Looking up…

	A	B	C	D	E	F
1		CF##length##millimeters	D##length##millimeters	L##length##millimeters	WH##length##millimeters	WL##length##millimeters
2	1.085	10850	850	1220	560	340
3	1.09	10900	900	1185	510	340
4	1.095	10950	950	1160	460	340
5	1.1	11000	1000	1140	410	340
6	2.085	20850	850	1240	240	660
7	2.09	20900	900	1210	190	660
8	2.095	20950	950	1175	140	660
9	2.1	21000	1000	1155	90	660
10	3.085	30850	850	1240	560	660
11	3.09	30900	900	1210	510	660
12	3.095	30950	950	1175	460	660
13	3.1	31000	1000	1155	410	660
14	4.085	40850	850	1450	0	510
15	4.09	40900	900	1450	0	510
16	4.095	40950	950	1450	0	510
17	4.1	41000	1000	1450	0	510
18	5.085	50850	850	1670	660	900

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…Values to obtain

	A	B	C	D	E	F
1		CF##length##millimeters	D##length##millimeters	L##length##millimeters	WH##length##millimeters	WL##length##millimeters
2	1.085	10850	850	1220	560	340
3	1.09	10900	900	1185	510	340
4	1.095	10950	950	1160	460	340
5	1.1	11000	1000	1140	410	340
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15	4.09	40900	900	1450	0	510
16	4.095	40950	950	1450	0	510
17	4.1	41000	1000	1450	0	510
18	5.085	50850	850	1670	660	900

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A Lookup table is a CSV File

Comma Separated Value file

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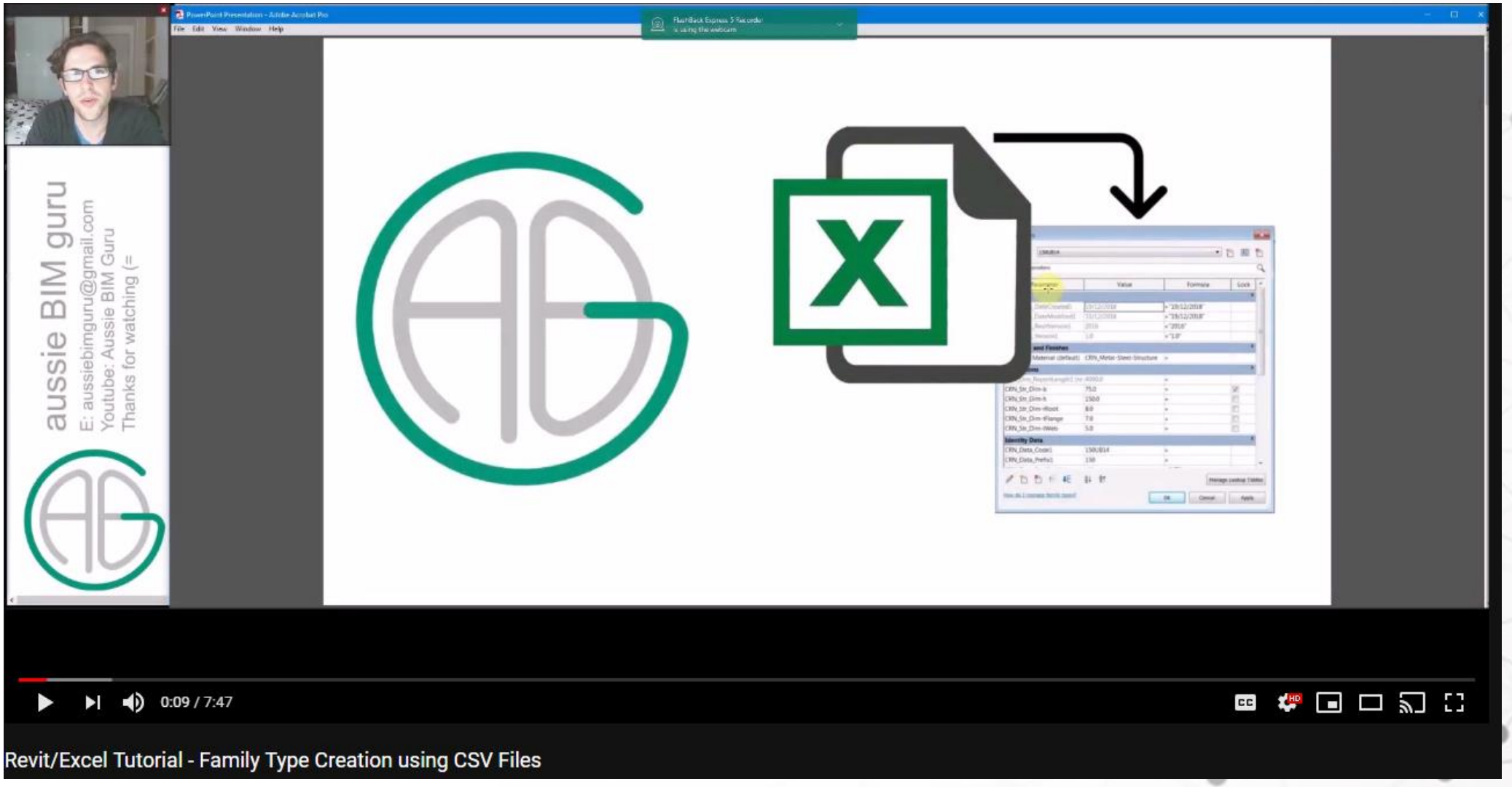

Revit/Excel Tutorial - Family Type Creation using CSV Files

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Why do we use them?

Additional layer of **types** within **types**, that can also be driven by **instance** based conditions

Examples;

Pipe insulation thickness based on diameter

Outer diameter thicknesses based on inner

Vision panel sizes

Latch-side clearance zone control

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We’re avoiding the use of long **if-based** formulae ideally

```
if(Mass_BuildingUseCode = 1, "COMMERCIAL",
if(Mass_BuildingUseCode = 1, "COMMERCIAL", if(Mass_BuildingUseCode = 2, "RESIDENTIAL",
if(Mass_BuildingUseCode = 1, "COMMERCIAL", if(Mass_BuildingUseCode = 2, "RESIDENTIAL", if(Mass_BuildingUseCode = 3, "MIXED USE",
if(Mass_BuildingUseCode = 1, "COMMERCIAL", if(Mass_BuildingUseCode = 2, "RESIDENTIAL", if(Mass_BuildingUseCode = 3, "MIXED USE", if(Mass_BuildingUseCode = 4, "WATERFRONT PRECINCTS",
if(Mass_BuildingUseCode = 1, "COMMERCIAL", if(Mass_BuildingUseCode = 2, "RESIDENTIAL", if(Mass_BuildingUseCode = 3, "MIXED USE", if(Mass_BuildingUseCode = 4, "WATERFRONT PRECINCTS", if(Mass_BuildingUseCode = 5,
if(Mass_BuildingUseCode = 1, "COMMERCIAL", if(Mass_BuildingUseCode = 2, "RESIDENTIAL", if(Mass_BuildingUseCode = 3, "MIXED USE", if(Mass_BuildingUseCode = 4, "WATERFRONT PRECINCTS", if(Mass_BuildingUseCode = 5,
if(Mass_BuildingUseCode = 1, "COMMERCIAL", if(Mass_BuildingUseCode = 2, "RESIDENTIAL", if(Mass_BuildingUseCode = 3, "MIXED USE", if(Mass_BuildingUseCode = 4, "WATERFRONT PRECINCTS", if(Mass_BuildingUseCode = 5,
if(Mass_BuildingUseCode = 1, "COMMERCIAL", if(Mass_BuildingUseCode = 2, "RESIDENTIAL", if(Mass_BuildingUseCode = 3, "MIXED USE", if(Mass_BuildingUseCode = 4, "WATERFRONT PRECINCTS", if(Mass_BuildingUseCode = 5,
if(Mass_BuildingUseCode = 1, "COMMERCIAL", if(Mass_BuildingUseCode = 2, "RESIDENTIAL", if(Mass_BuildingUseCode = 3, "MIXED USE", if(Mass_BuildingUseCode = 4, "WATERFRONT PRECINCTS", if(Mass_BuildingUseCode = 5,
if(Mass_BuildingUseCode = 1, "COMMERCIAL", if(Mass_BuildingUseCode = 2, "RESIDENTIAL", if(Mass_BuildingUseCode = 3, "MIXED USE", if(Mass_BuildingUseCode = 4, "WATERFRONT PRECINCTS", if(Mass_BuildingUseCode = 5,
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if(Mass_BuildingUseCode = 1, "COMMERCIAL", if(Mass_BuildingUseCode = 2, "RESIDENTIAL", if(Mass_BuildingUseCode = 3, "MIXED USE", if(Mass_BuildingUseCode = 4, "WATERFRONT PRECINCTS", if(Mass_BuildingUseCode = 5,
if(Mass_BuildingUseCode = 1, "COMMERCIAL", if(Mass_BuildingUseCode = 2, "RESIDENTIAL", if(Mass_BuildingUseCode = 3, "MIXED USE", if(Mass_BuildingUseCode = 4, "WATERFRONT PRECINCTS", if(Mass_BuildingUseCode = 5,
```

Syntax in Family

size_lookup(LUT, “XXX", Y mm, LUPN)

Where….

LUT = Look up Table Suggest as Parameter

XXX = Name of field in Lookup Table

Y = Size if no match

LUPN = Value in column 1 Suggest as Parameter

LUPN must be of type **Length**

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Example

	A	B	C	D	E	F	G	H
1		VP##length##millimeters	X##length##millimeters	Y##length##millimeters	XOff##length##millimeters	YOff##length##millimeters		
2	1	1	300	900	150	900		
3	2	2	300	600	200	1050		
4	3	3	600	900	12345	900		
5	4	4	12345	12345	300	300		

Data		
Centric	12345.0	=12345 mm
LookupTableName	VPanelLUT	="VPanelLUT"
VPX (default)	300.0	=size_lookup(LookupTableName, "X", 0 mm, VPType)
VPY (default)	900.0	=size_lookup(LookupTableName, "Y", 0 mm, VPType)
VPXoffset (default)	150.0	=size_lookup(LookupTableName, "XOff", 0 mm, VPType)
VPYoffset (default)	900.0	=size_lookup(LookupTableName, "YOff", 0 mm, VPType)
VPX override (default)	300.0	=if(VPX < 1 mm, 100 mm, if(VPX = Centric, Width - (VPXoffset * 2), VPX))
VPY override (default)	900.0	=if(VPY < 1 mm, 100 mm, if(VPY = Centric, Height - (VPYoffset * 2), VPY))
VPXoffset override (default)	150.0	=if(VPXoffset = Centric, (Width - VPX) / 2, VPXoffset)
VPYoffset override (default)	900.0	=if(VPYoffset = Centric, (Height - VPY) / 2, VPYoffset)
Void inset (default)	40.0	=if(VPX + VPY = 0 mm, 0 mm, Thickness)
VPon (default)	☑	=not(VPX + VPY = 0 mm)
Other		
Frame Projection Ext.	25.0	=
Frame Projection Int.	25.0	=
Frame Width	25.0	=
VPType (default)	1.0	=

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Demonstration

Setting up a Lookup Table

The Table in action

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A **very** practical application

For Lookup tables…

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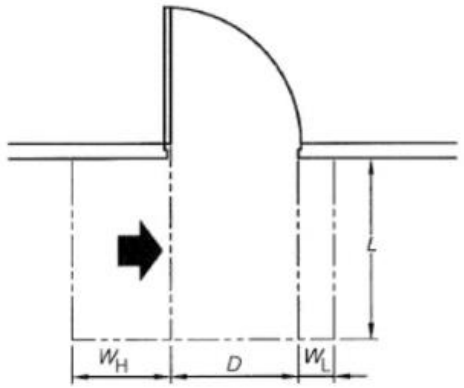
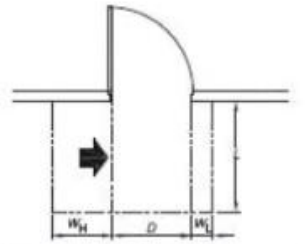
DDA Latch side clearance



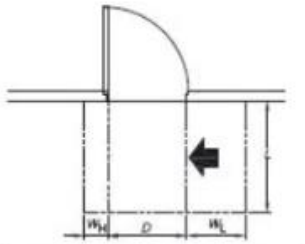
Dimension D	Dimension L	Dimension W_H	Dimension W_L
850	1220	560	340
900	1185	510	340
950	1160	460	340
1000	1140	410	340

(a) Hinge-side approach, door opens away from user



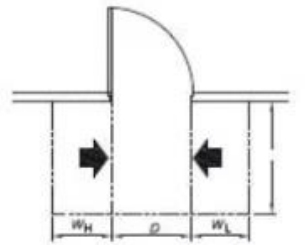
Dimension D	Dimension L	Dimension W_H	Dimension W_L
850	1220	560	340
900	1185	510	340
950	1160	460	340
1000	1140	410	340

(a) Hinge-side approach, door opens away from user



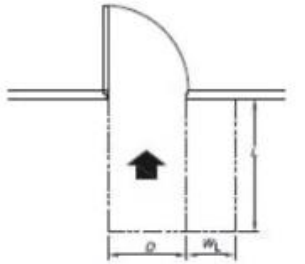
Dimension D	Dimension L	Dimension W_H	Dimension W_L
850	1240	240	660
900	1210	190	660
950	1175	140	660
1000	1155	90	660

(b) Latch-side approach, door opens away from user



Dimension D	Dimension L	Dimension W_H	Dimension W_L
850	1240	560	660
900	1210	510	660
950	1175	460	660
1000	1155	410	660

(c) Either side approach, door opens away from user



Dimension D	Dimension L	Dimension W_H	Dimension W_L
850	1450	0	510
900	1450	0	510
950	1450	0	510
1000	1450	0	510

(d) Front approach, door opens away from user

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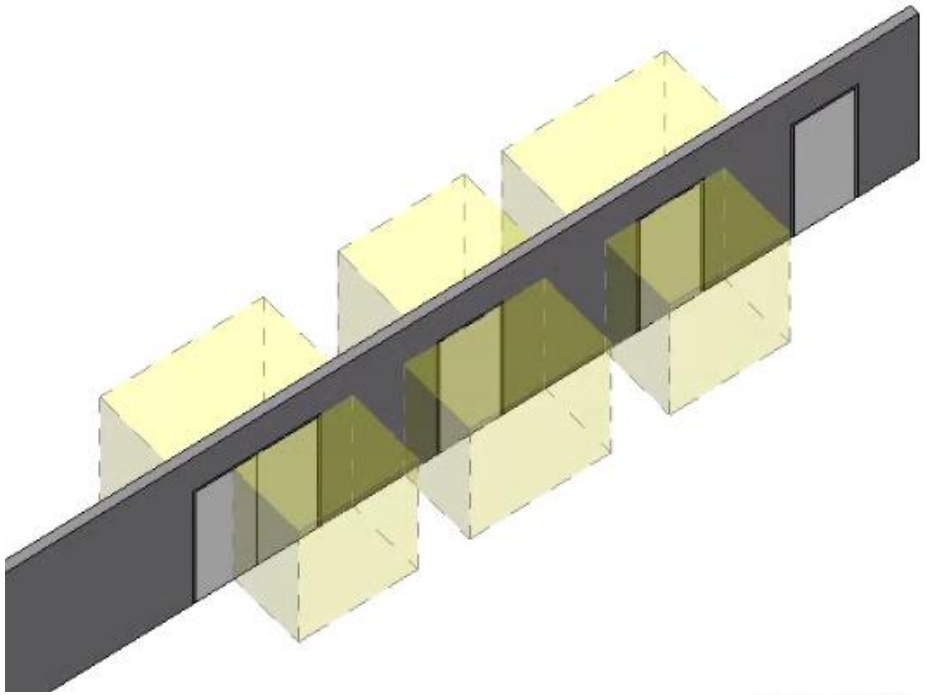
Example in use

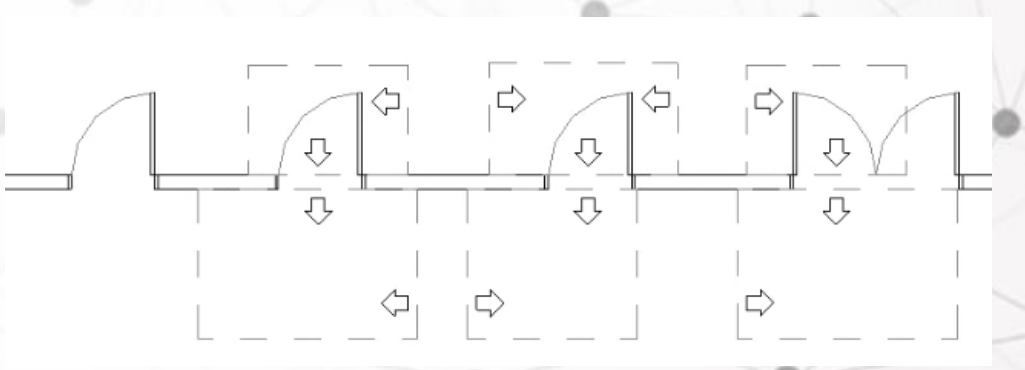


Properties

CRN_DOR_Double_R19
1840x2040

Doors (1) | Edit Type

Data	
CRN_Door_ApproachType1A	0
CRN_Door_ApproachType1B	1
CRN_Door_ApproachType2A	0
CRN_Door_ApproachType2B	5



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Now it’s your turn!

Give it a try – so many applications…

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