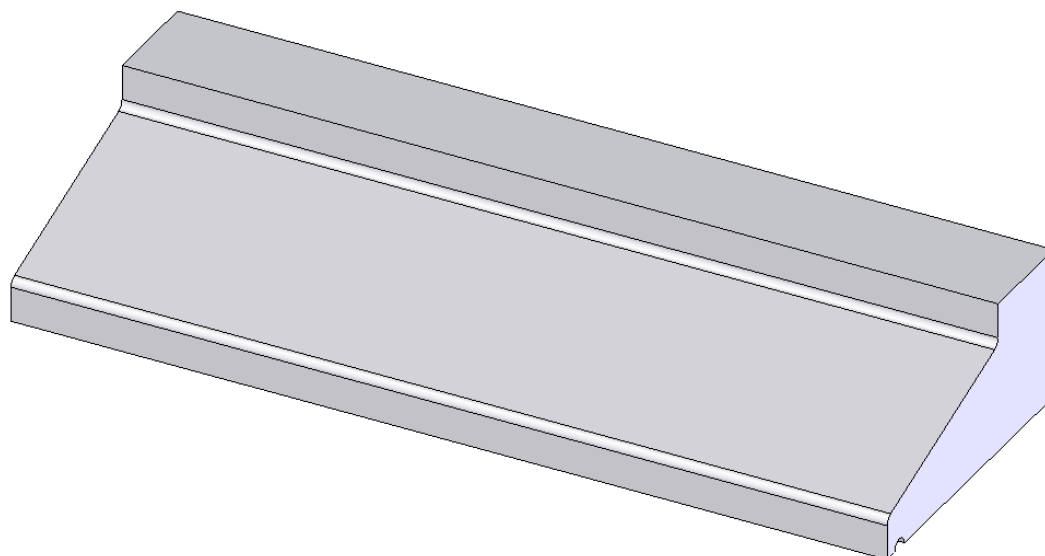


Window Sill Exercise

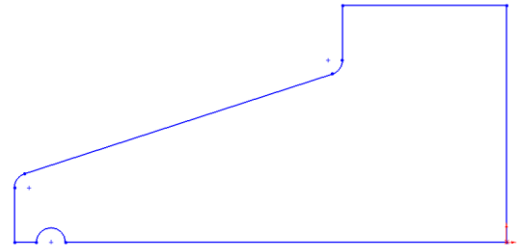


Prerequisite Knowledge	Creating a Part, Saving a Part, Creating a Sketch, Drawing Lines, Rectangles, Centrelines. Automatic Relations – Vertical, Horizontal, Coincident and Add relations. Smart Dimensioning, Extruded Boss/Base (Blind End condition), Extruded Cut (Through All End condition)
Focus of the Lesson	On completion of this exercise you will have used: <ul style="list-style-type: none">• Sketch Line• Sketch Circle• Equal relations• Sketch Fillet• Power Trim• Extruded Boss/Base
Commands Used	<i>Line, Add Relation, Sketch circle, Power Trim and Extruded Boss/Base.</i>
Getting Started	
New Part	Create a new part. Save the part as <i>Window sill</i> in your chosen location

Where to start?

The only sketch of the part to be created is based on a sectional view of a window sill.

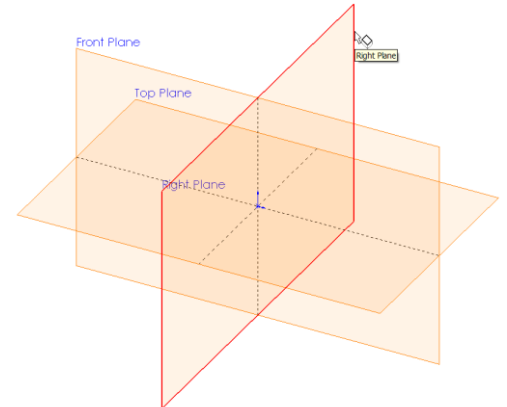
Sketch to generate the feature



Getting started

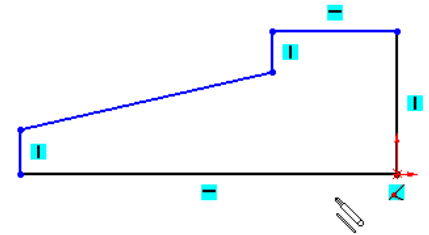
Choosing a plane


Select **Sketch** on the sketch toolbar. Choose the right (vertical) plane.

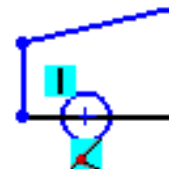


Creating a sketch

Click the **Line** command, create an outline sketch of the window sill from the origin.



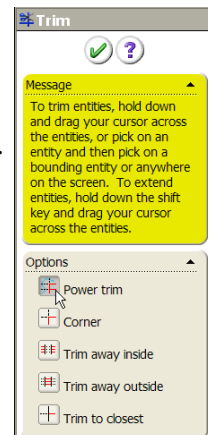
Select the Circle  command from the sketch toolbar. Choose a point coincident with the bottom line as the centre and drag as shown, click to form the circle.



Trim Entities

Trims or extends a sketch entity to be coincident to another or deletes a sketch entity

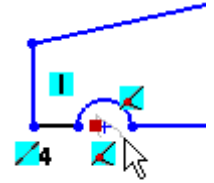
Select the **Trim Entities**  command from the sketch toolbar. Select Power Trim in the trim property manager.




Power Trim

Removes the portion of an entity that you drag over between intersections or to an endpoint.

Holding down the left mouse button drag the cursor over the circle and the line, when the curve and line are removed release the button.



Select the **Sketch Fillet**  command from the sketch toolbar.

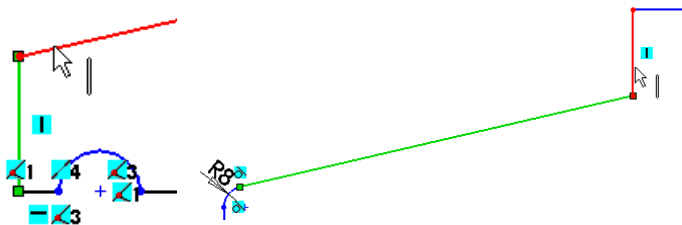
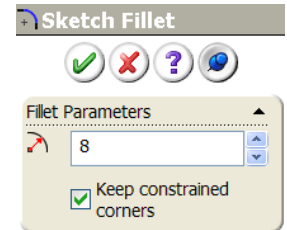


Sketch Fillet

Rounds the corner at the intersection of two sketch entities, creating a tangent arc.

In the Sketch Fillet property manager table change radius to **8**.

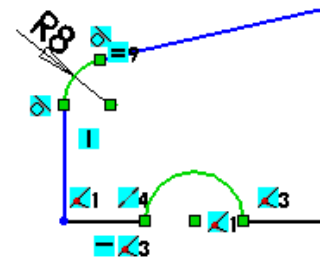
Select the three appropriate lines as shown below.




Adding an Equal Relation

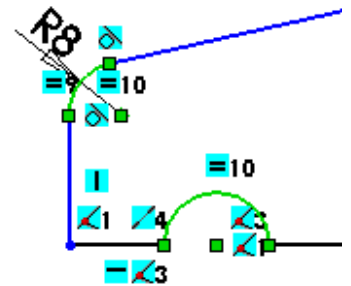
Select the **Add Relation** command from the sketch toolbar.

Select one of the fillets and select the semi-circle on the bottom of the sill.

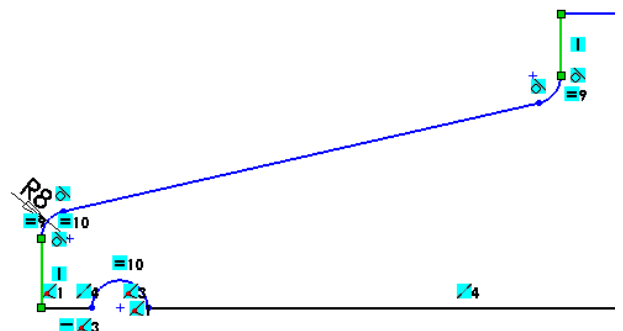


Choose **Equal** in the add relation property Manager, and click **OK** .

The curves are now an equal relation with a radius of 8mm.

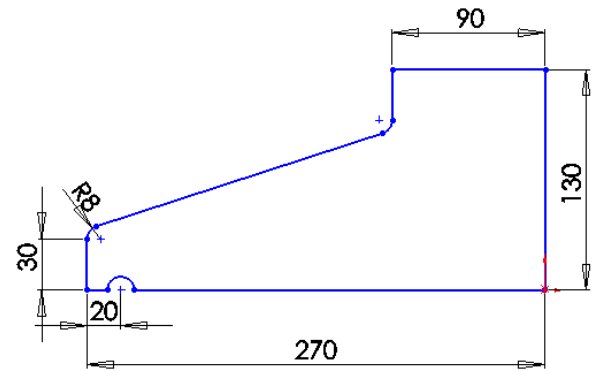


Select the **Add Relation** command again and select the two vertical lines as shown. Choose **Equal** and click **OK**.



Dimensioning the Sketch

Select **Smart Dimension** from the sketch toolbar and dimension the sketch as shown.



Dimensioning Tip

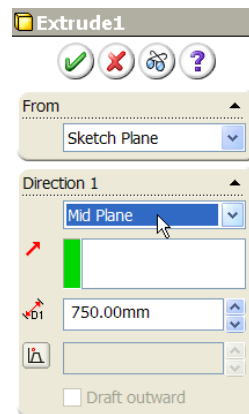
When you dimension a sketch, start with the smallest dimension first, and work your way to the largest.

Exit the sketch

Creating the feature

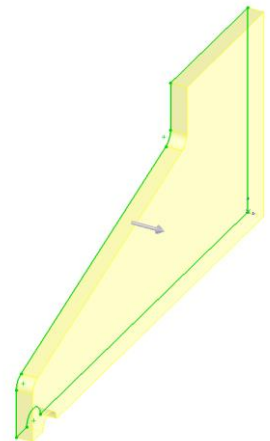
Choose **Extruded Boss/Base** from the **Features Toolbar**

Extrude Feature Settings



End Condition = **Mid Plane**

Extends the feature from the sketch plane equally in both directions.

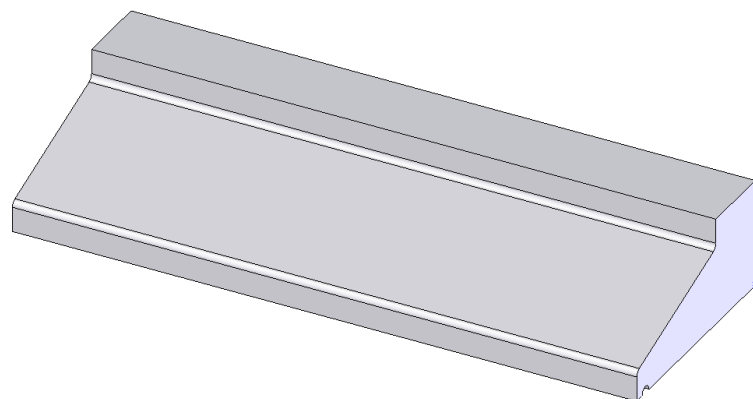


Mid Plane End Condition.

 Depth = **750mm**

Click **OK** button  to create the feature.

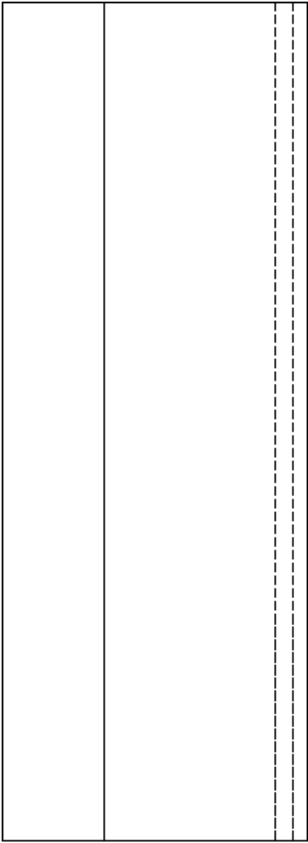
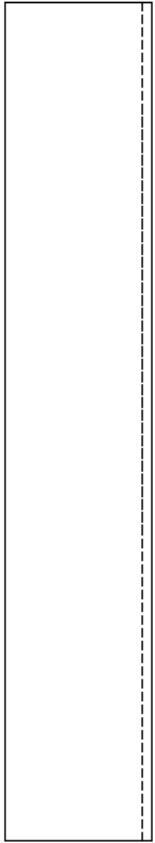
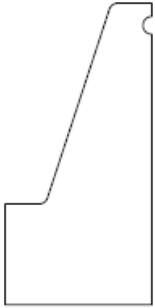
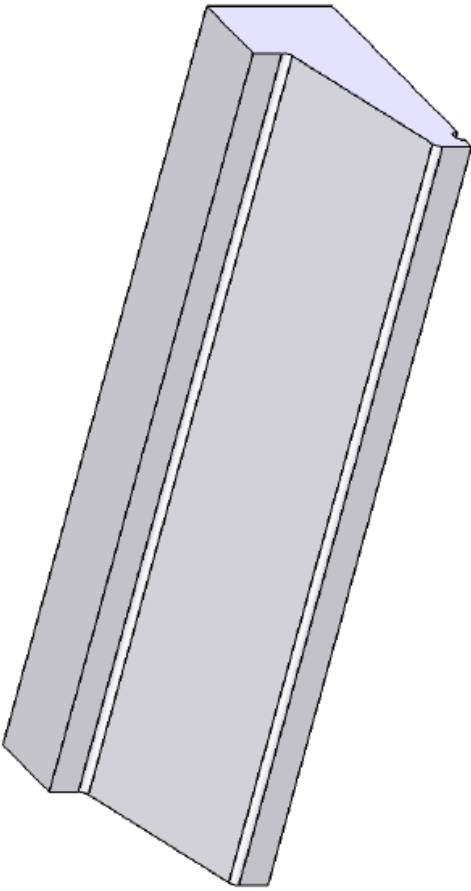
Completed feature




Rename it as **Window Sill**.

Save and close

Click **Save** to save your work and click **File, Close** to close the part.



 TECHNOLOGY SUBJECTS SUPPORT SERVICE	DESIGN & COMMUNICATION GRAPHICS	
	TITLE: Window Sill	
DRAWN BY: YOUR NAME HERE	DATE: 09/10/2007	SCALE: 1:10
SHEET: A4	UNLESS OTHERWISE SPECIFIED ALL DIMENSIONS ARE IN mm	SHEET 1 OF 1

Exercise Complete!