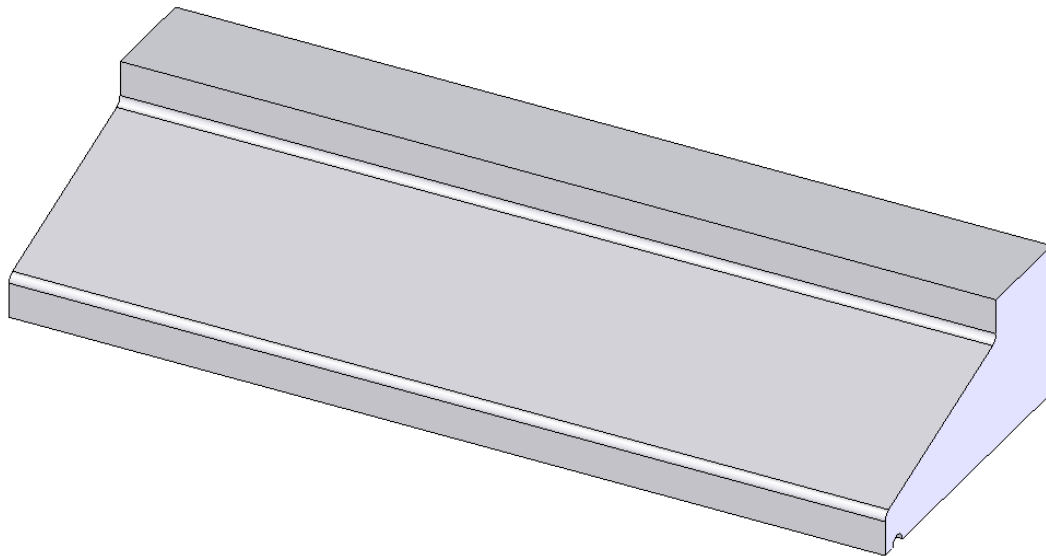


Window Sill Exercise

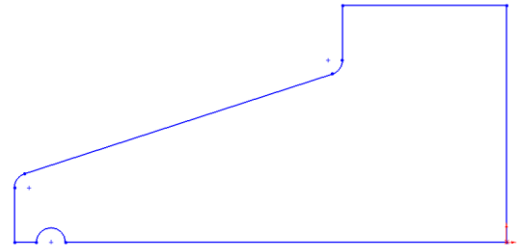


Prerequisite Knowledge	Creating a Part, Saving a Part, Creating a Sketch, Drawing Lines, Rectangles, Centrelines. Automatic Relations – Vertical, Horizontal, Coincident and Add relations. Smart Dimensioning, Extruded Boss/Base (Blind End condition), Extruded Cut (Through All End condition)
Focus of the 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.

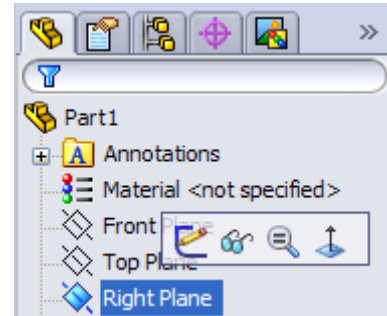
Sketch to generate the feature



Getting started

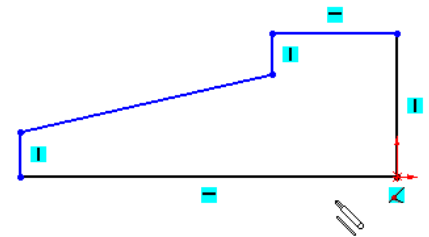
Choosing a plane


Select the **Right plane** from the manager Tree, then select Sketch from the options Available

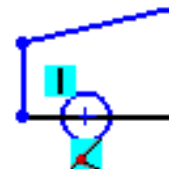


Creating a sketch

Press **S** and click the **Line** command, create 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.




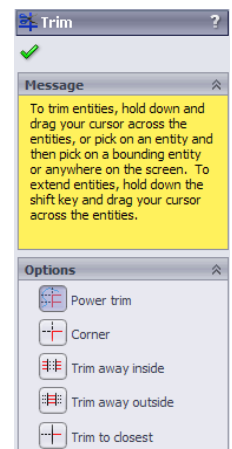
Dimension the circle R8mm.



Trim Entities

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

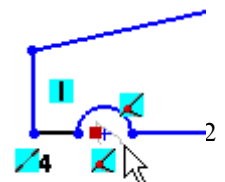
Press **S** and select the **Trim Entities**  command from the sketch toolbar. Select Power Trim in the trim property manager.



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.

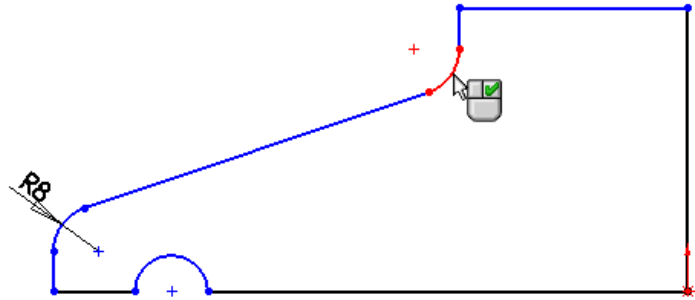
Press **S** and select the **Sketch Fillet**  command from the sketch toolbar.



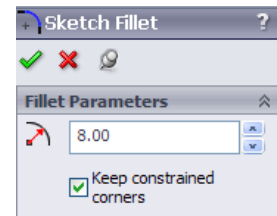
Sketch Fillet

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

Select the shown corners

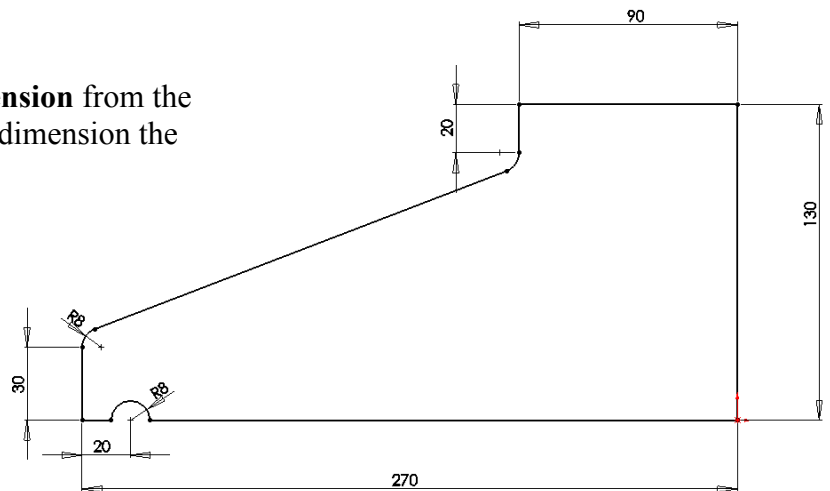


In the Sketch Fillet property manager table change radius to **8**.



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

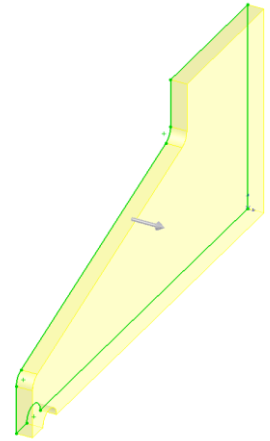
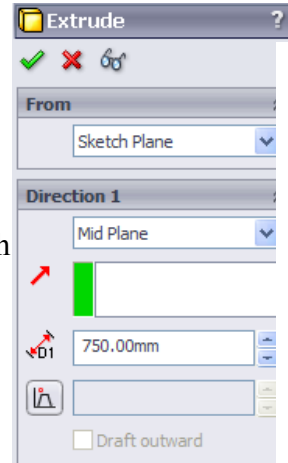
Creating the feature

Press **S** and choose **Extruded Boss/Base** from the **Features Toolbar**

Extrude Feature Settings

End Condition = **Mid Plane**

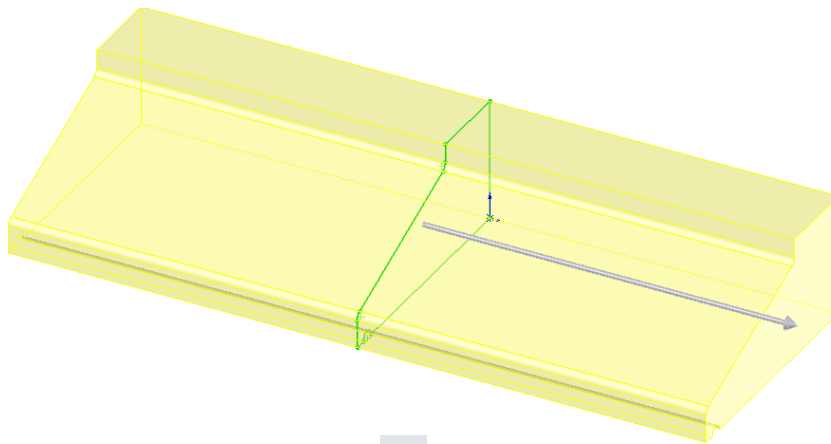
Extends the feature from the sketch plane equally in both directions.



Mid Plane End Condition.

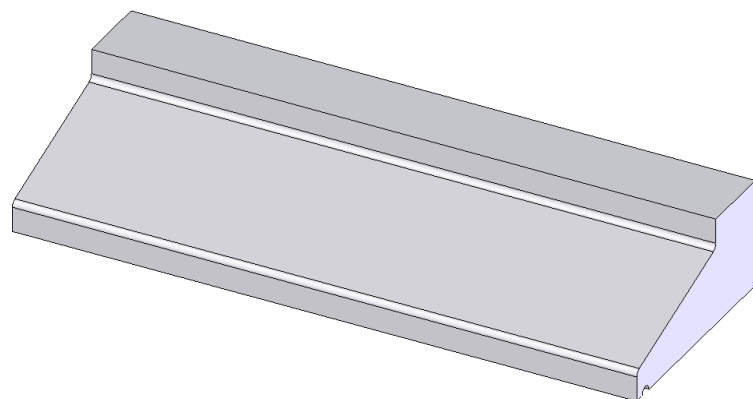


Depth = **750mm**



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.

The image shows a 3D perspective view of a window sill with a chamfered top edge and a central groove. Below it are three 2D orthographic views: a top view showing the profile of the sill, a front view showing the side profile with a chamfered top and a central groove, and a side view showing the cross-section of the sill with a chamfered top and a central groove. The 3D model is shaded in light blue and grey.

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

Exercise Complete!