

SOLIDWIZE

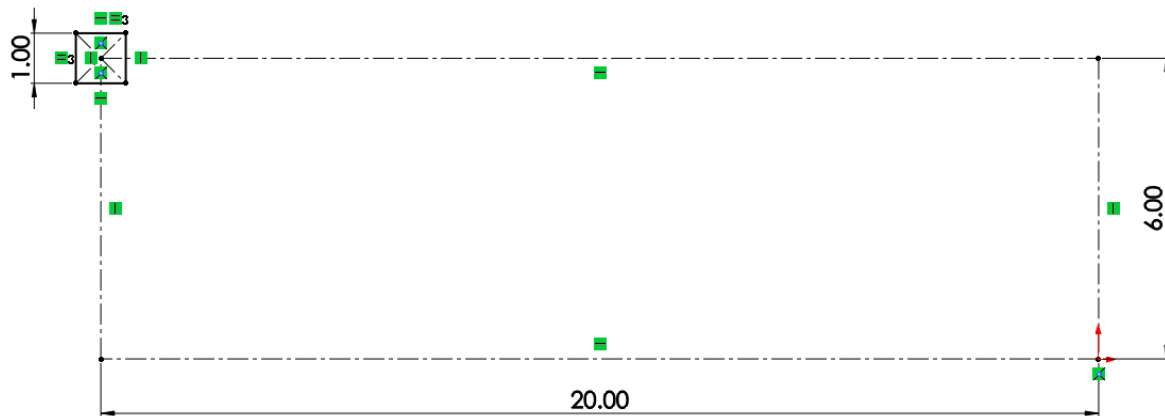
ONLINE SOLIDWORKS TRAINING

Extrusion Exercise



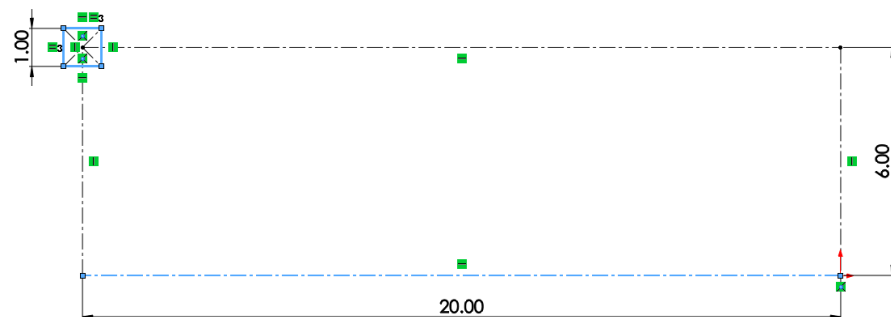
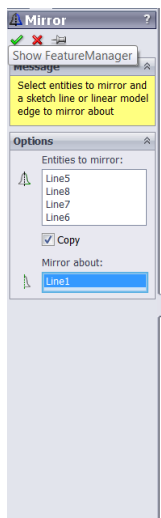
Step 1: Creating the Leg Sketch

Create the following sketch on the **Top Plane**.



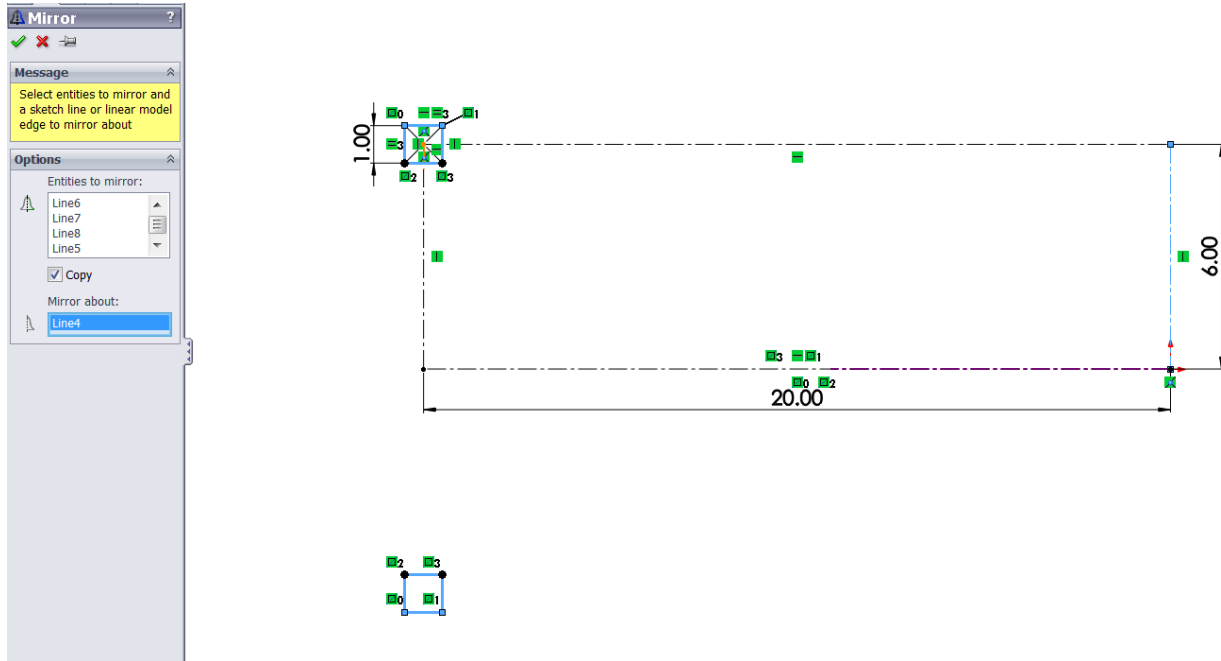
Step 2: Mirroring the Leg

Mirror the square across the horizontal line as shown below:

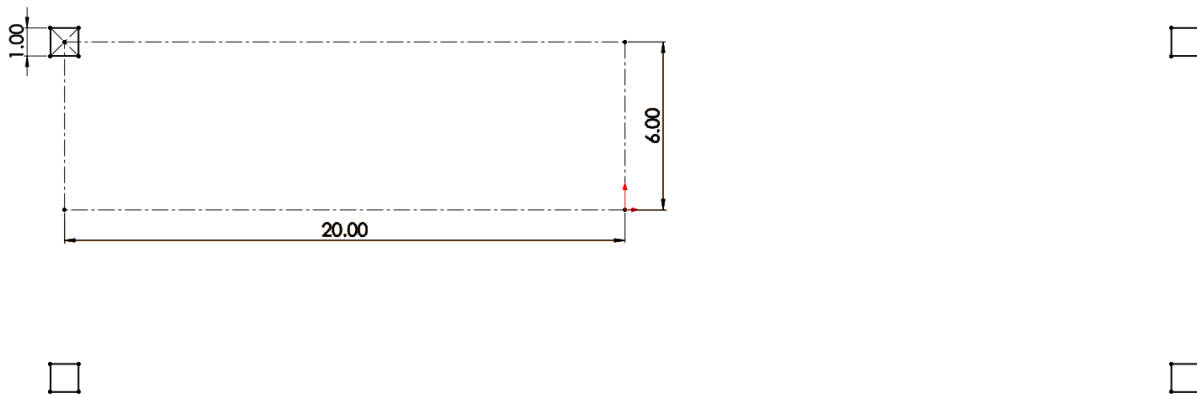


Step 3: Mirroring the Leg, Part 2

This time mirror the both squares across the vertical line as shown below (selected entities are highlighted in blue):

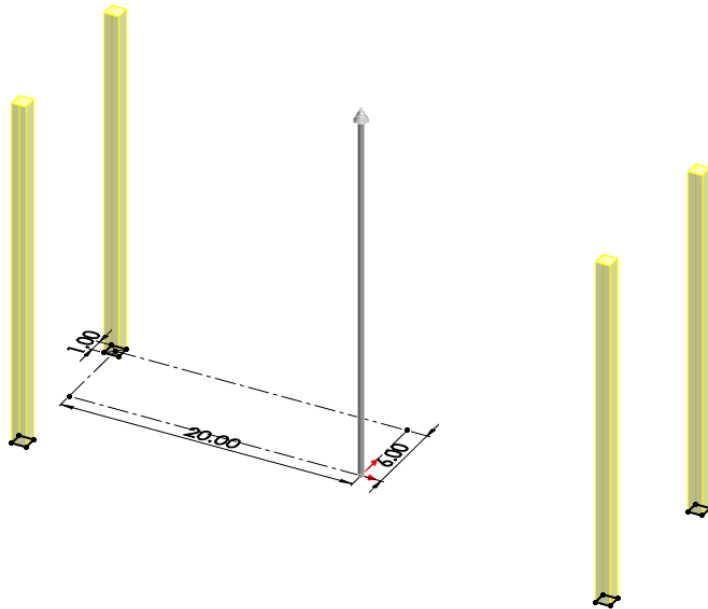
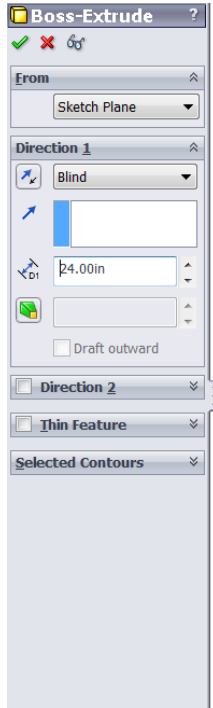


The resulting sketch should look like this:

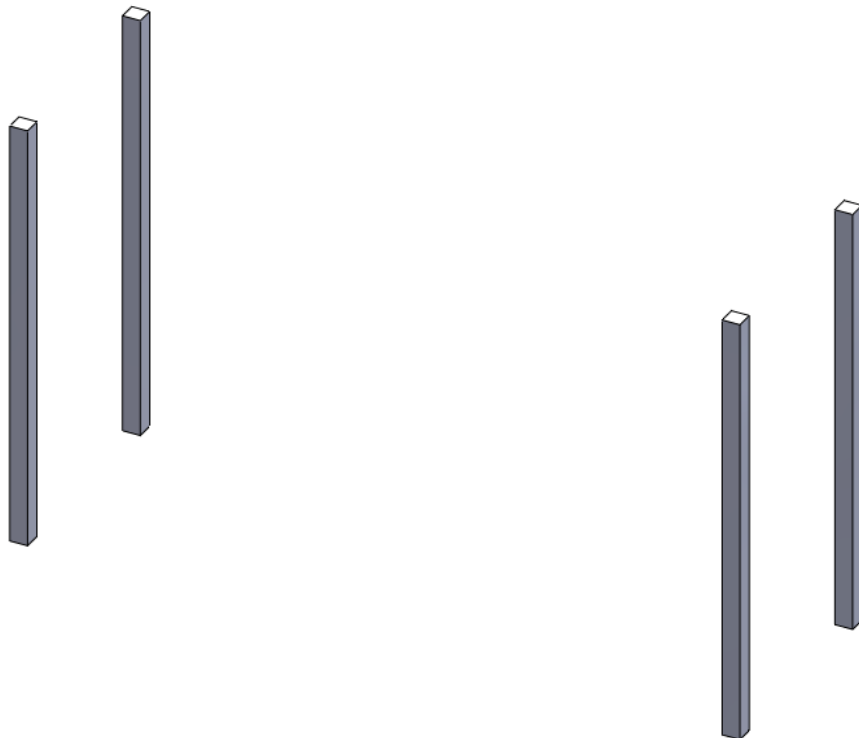


Step 4: Extruding the leg

Extrude the leg using the **Extrude Boss/Bass** tool in the feature tab. Set extrude type to **Blind** and extrude length to **24in**:

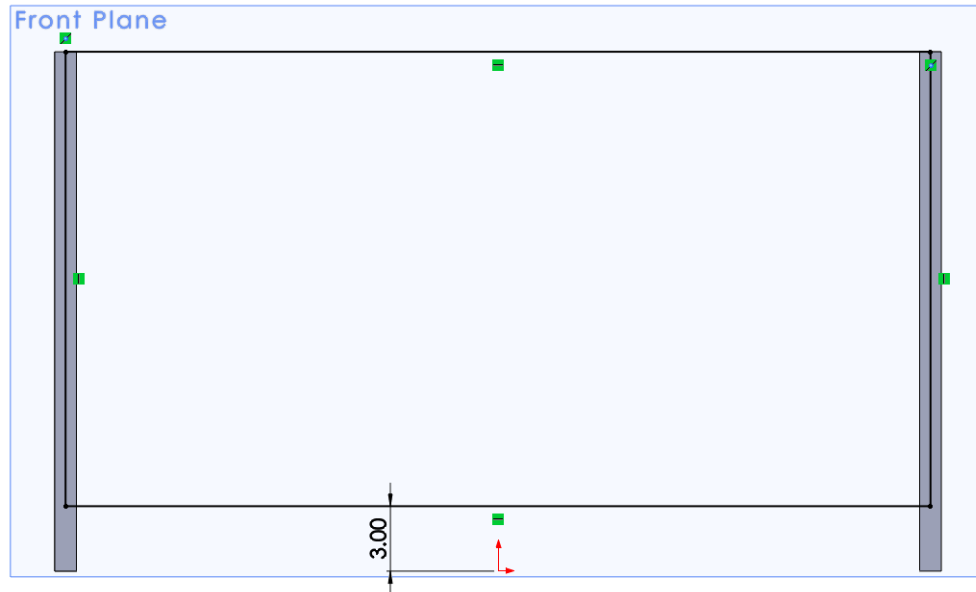


The result should look like this:



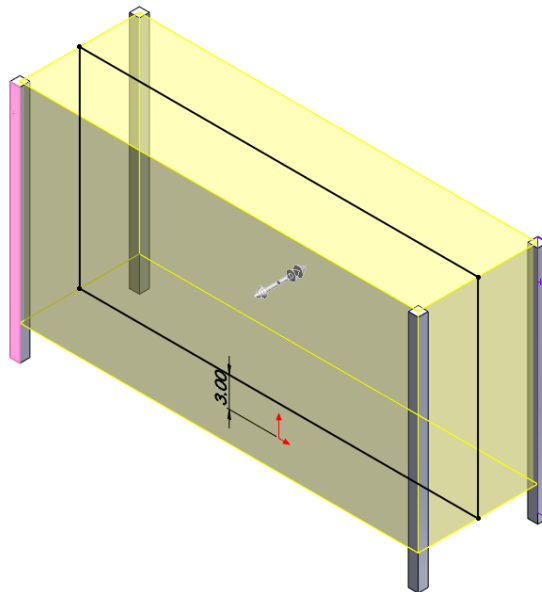
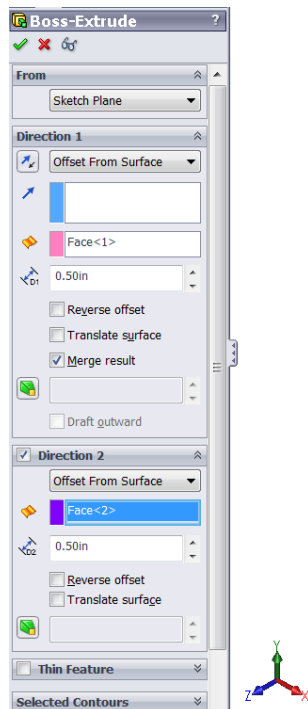
Step 5: Sketching the body

Create a sketch on the **front plane** as shown below. Notice the top two vertices have mid-point relations to the top edges of the legs:

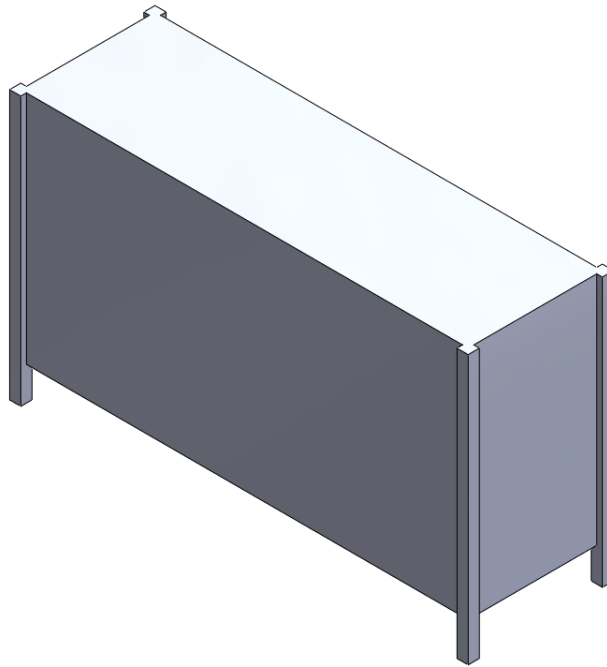


Step 6: Extruding the body

Extrude the body in both directions. Set the extrusion type to **Offset From Surface** for both directions and offset distance to **0.50in**:

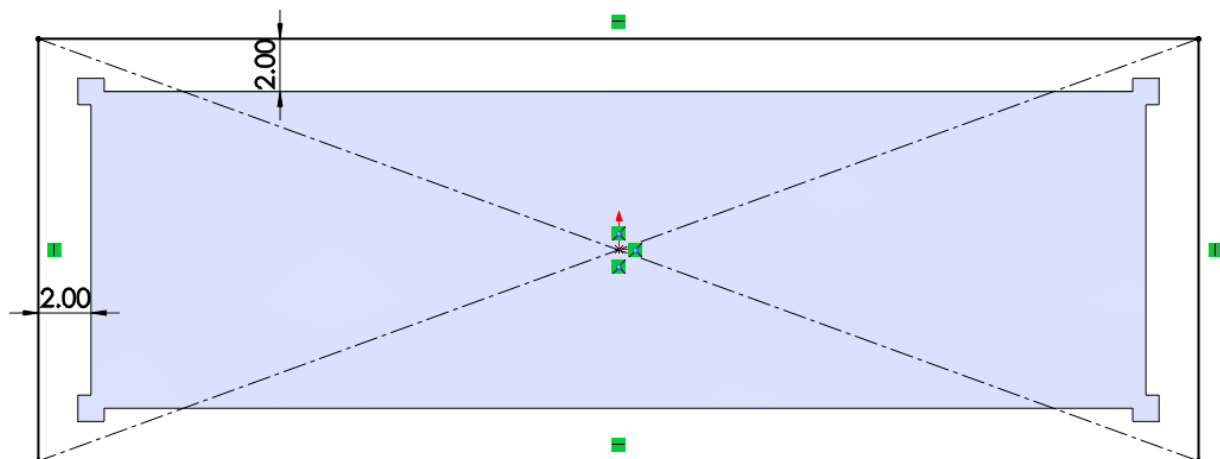


The resulting extrusion should look like this:



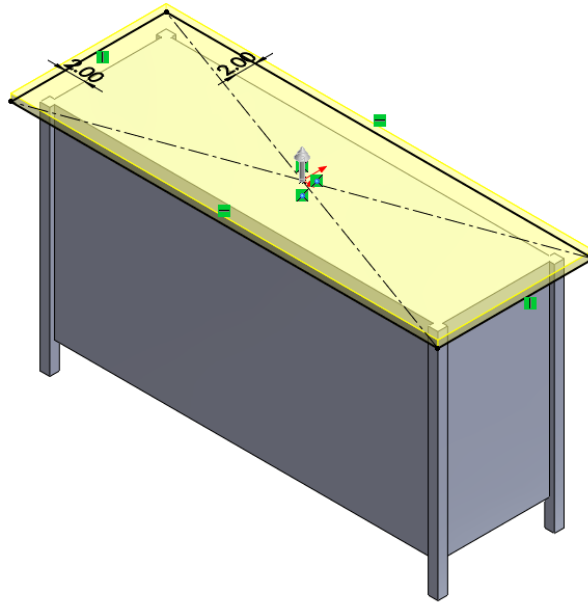
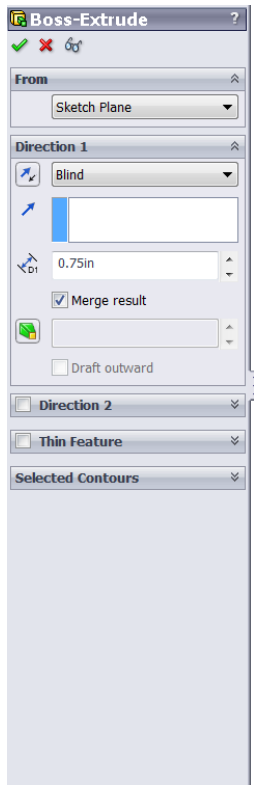
Step 7: Sketching the Shelf Top

Create a sketch on the **flat plane of the shelf** as shown below:

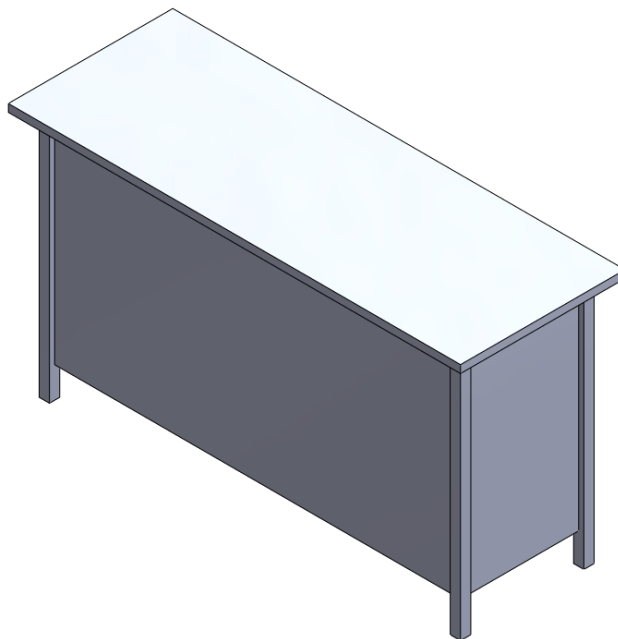


Step 8: Extrude the Shelf Top

Extrude from sketch plane with extrusion type set as **Blind** and an extrusion offset of **0.75in**:

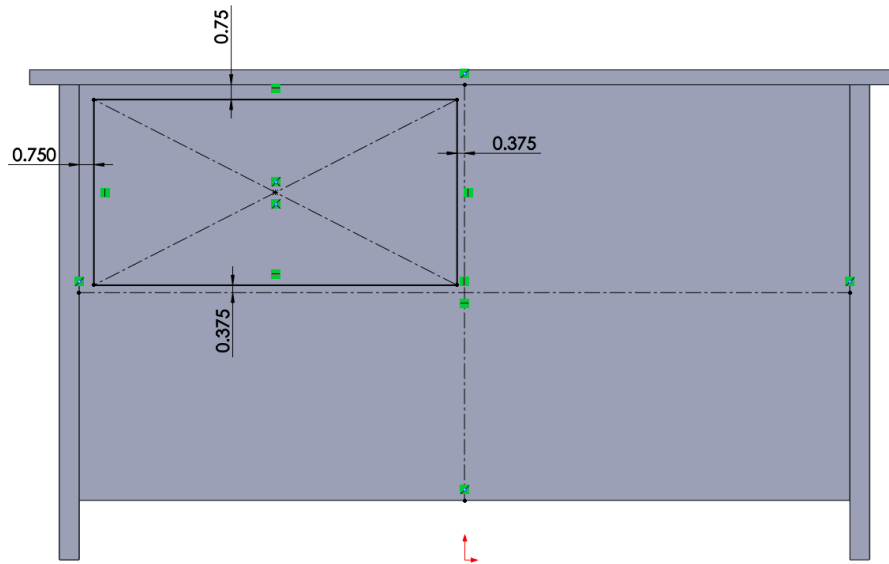


The result is shown below:

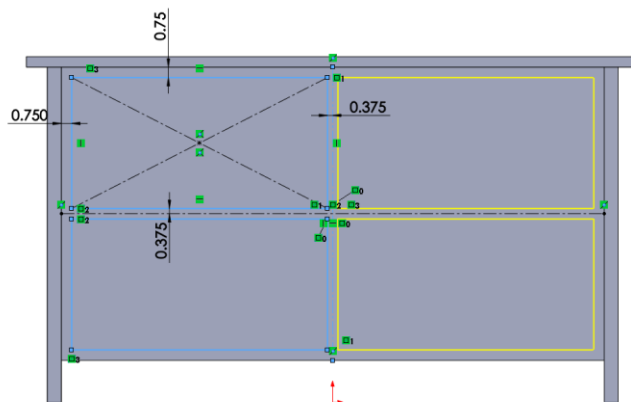
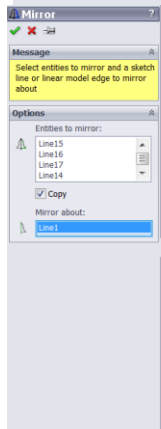
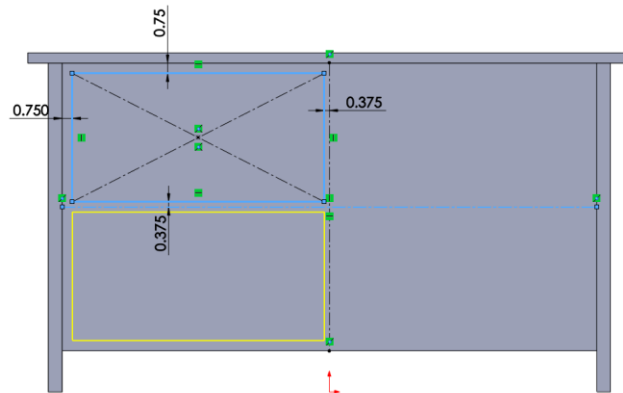
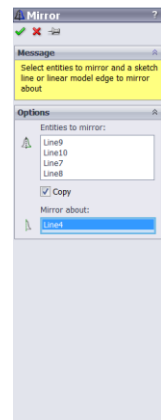


Step 9: Creating the Shelves

Create a sketch on the one of the longer **frontal flat plane of the shelf** as shown below:

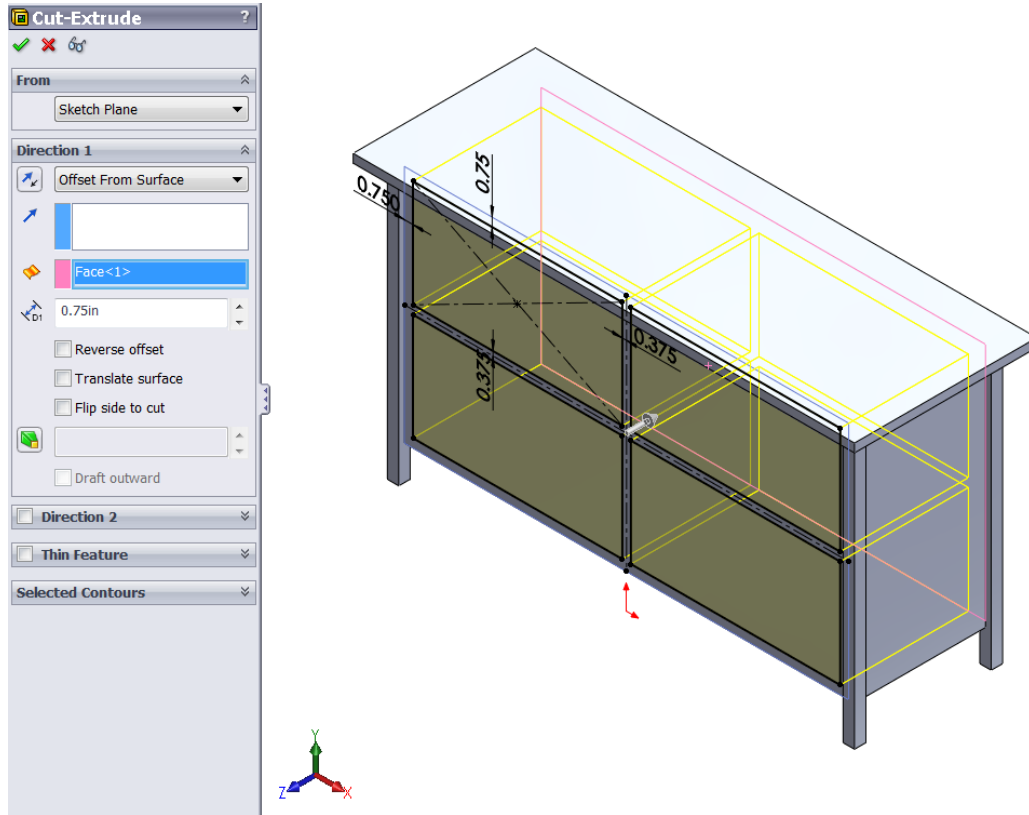


Similar to **Step 2** and **3**, mirror the box across the horizontal construction line, then again across the vertical construction line as shown below:

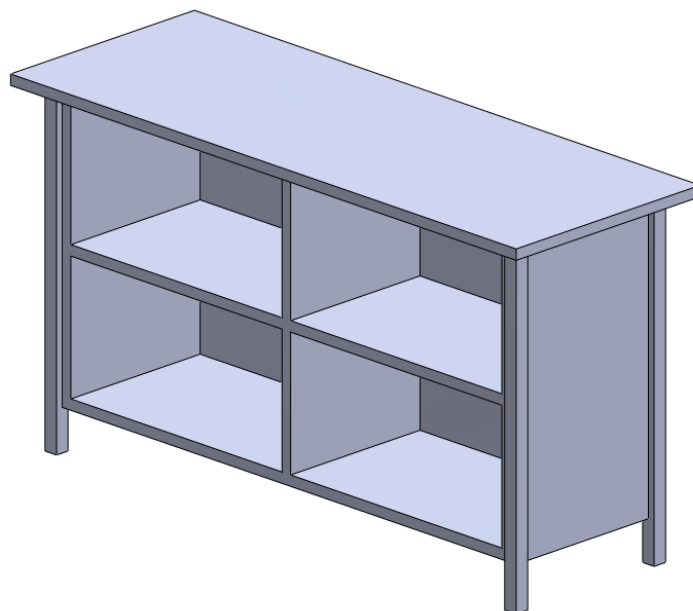


Step 10: Creating the Shelves, Cut Extrusion

Using the **Extrude Cut** tool, extrude cut the four boxes into the shelf. Select **Sketch Plane** under “**From**” and select extrude cut type to **Offset From Surface** with an offset distance of **0.75in** from the back face.

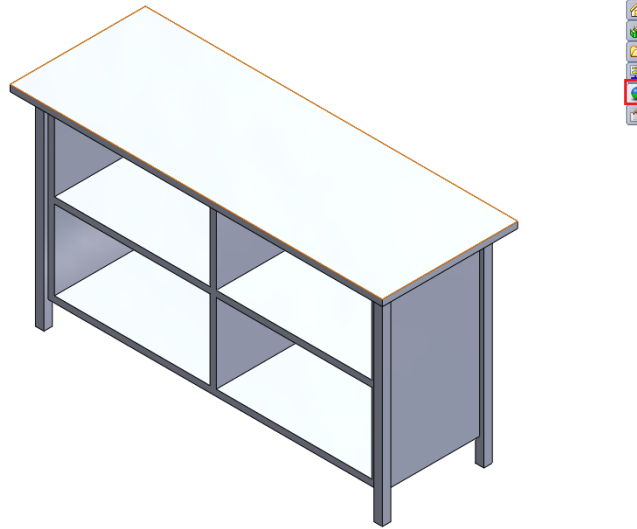


The result is shown below:



Step 11: Adding Appearances

To add the wood finish appearance on the shelf, open the appearance tab from the right of the display pane:



Expand the **Appearance (color)** drop down, and choose **organic>wood>cherry**. Select **Polished cherry 2d** and drag the image right onto the shelf in the display pane. A small options box will appear; select the **right most or “part level” selection**. Each option corresponds to which level you want the appearance applied to. From left to right, the options are: face, feature, body, part.



Step 12: Save and finish!

The shelf should turn out like this!



Do not forget to save the design as **Extrusion_Shelf.sldprt** and exit the part.