The following set of instructions are an optional replacement for the “SolidWorks Extrude” slides. This demo should help prepare the students for the Out of Class HW.

**Student + Instructor:**

1. Open Extrude.BLK.O_Base.SLDPRT file located in SolidWorks 2 EEIC website page. Note that the sketch is **Fully Defined** using geometric (vertical, horizontal, coincident, equal, symmetric, parallel, etc.) and dimension constraints which will be covered in upcoming lectures.

   - **Warn about SKETCH on SKETCH & remind setting IPS or MMGS**

2. **Select Sketch 1** to turn the existing sketch **BLUE** and click on Edit Sketch and use the **Offset Tool** to create an inner offset .75” wide by first selecting the offset tool, second clicking on reverse to force the offset inside the existing sketch, third setting the dimension to .75, fourth click on any line in the existing sketch and finally clicking on the green arrow to accept the offset. Note that using the offset tool avoids having to draw the inner pattern using the Line tool.

   - **Shows use of offset tool.**

3. Accept the edit and select Feature and then Extruded Boss/Base using an outward depth of 1.0” as shown below to create the solid Block O. Accept the extrusion.

   - **Shows use of a positive EXTRUDE**

4. Select the front surface of the Block O (turns **BLUE**) and then Edit Sketch and apply 2 offsets of width of 0.1” as shown. For the outer offset select reverse and set the dimension to .10. The inner offset (no reverse checked) will need to be created by sequentially click on all inner line segments while depressing the Ctrl key.

   - **Shows use of a negative EXTRUDE (Cut)**

5. Select Feature and then Extruded Cut setting the depth to .25”, selecting any line on the existing offset patterns and finally accepting the cut.
6. Select the front surface and then Edit Sketch. Select the “A” Text Box tool and type “OSU”. Uncheck the “Use Document Font” box and Select Points Points type in "96" in the generated window. Position the text box as shown by dragging the “dot” on the lower left corner. If it accidently becomes “locked” to one of the drawing lines, delete the coincident restraint and continue to re-position the text. Accept the “OSU” sketch.

7. Select Feature and then Extruded Boss/Base and extrude the “OSU” text outward for .125” and accept the extrusion.

8. (Use steps 8 & 9 or discuss the in class assignment on the EEIC website) Finally select the top surface again and then Edit Sketch select again the “A” text box and employ the default setting (Use Document Default) to create the label reading:

    STUDENT NAME
    STUDENT SEAT #
    PROF. NAME

Change font to around 22 points and accept with green arrow. Position the text by grabbing and moving the DOT. With the DOT still lighted “BLUE”, under Display/Delete Relations select Add a Relation and FIX icon and accept with green arrow.

Note the drawing will now display FULLY DEFINED.

Use Ctrl 7 to zoom to the ISO view. Note that 2 positive and one negative extrusion were used to create the part. Remember that a completed part should have NO "Sketch" in the Display Tree without a parent function above it except for the label containing name and seat number.

9. Select Zoom to Fit, print and submit object as optional in class assignment.
1. Noting that initial sketch is Fully Defined, **Employ Offset** to replicate sketch outline within existing outline

2. **Base Extrude** to create solid object

3. **Employ Offset twice** on front of object to again replicate sketch outline within existing object in preparation for the creation of the internal groove.

4. **Extrude cut** to create the groove

5. **Use the Text Box** on the front of the object to create OSU lettering on the base of the object

6. **Base Extrude** to create “solid” OSU lettering

Notice the default **shading** above. To **optionally** make the background white, select “**Appearance, Scenes and Decals**” and then under Scenes, select “Basic Scenes”, scroll down and select “Ambient Only” and pull the icon onto the sketch and release it, creating a **white background**.

Control + Click [HERE](#) to return to Demo Start