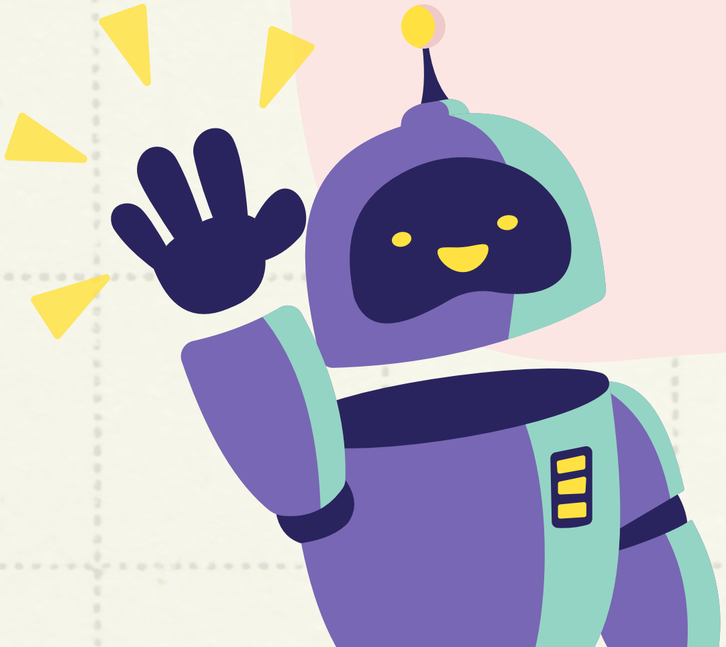
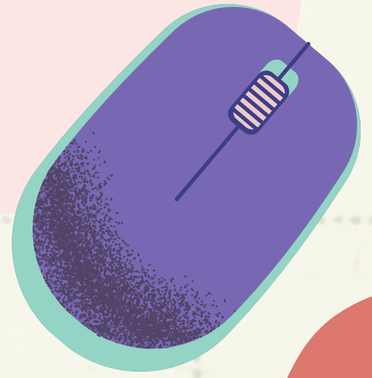
2D DESIGN AND CUTTING

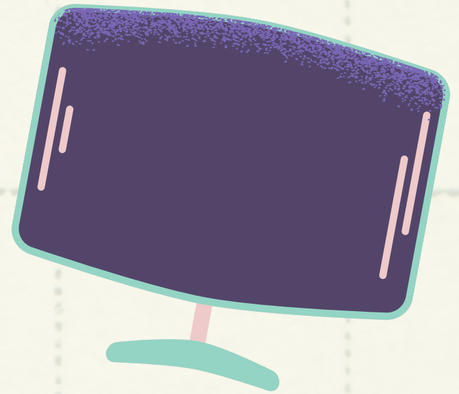
PS70 LAB





Reminder: Install Fusion if you haven't already.

TODAY'S LAB



Vinyl Cutter Demo

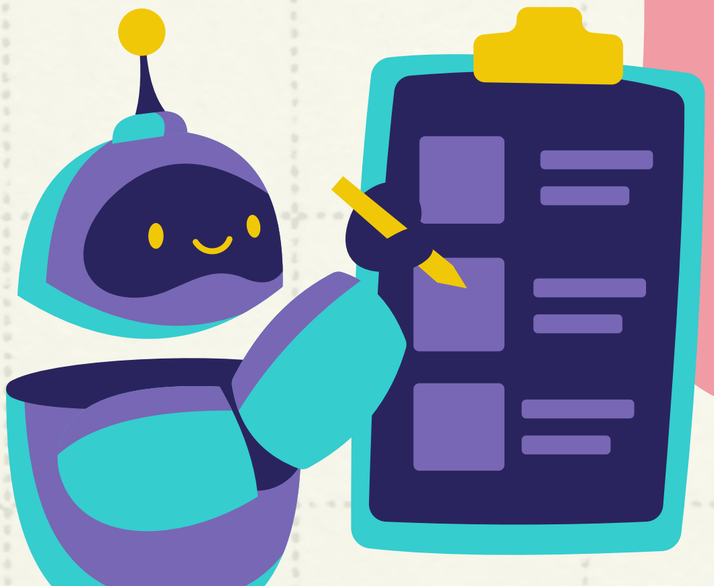
Useless Box: Design and Cut Box Walls Out of Cardboard

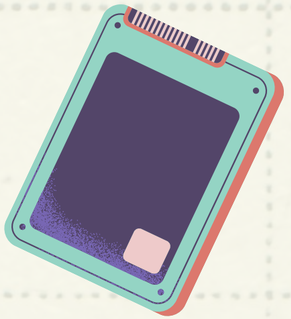
Work on the Assignment: Create Your Materials Box

Fusion Tutorials

3D Model 2 Objects

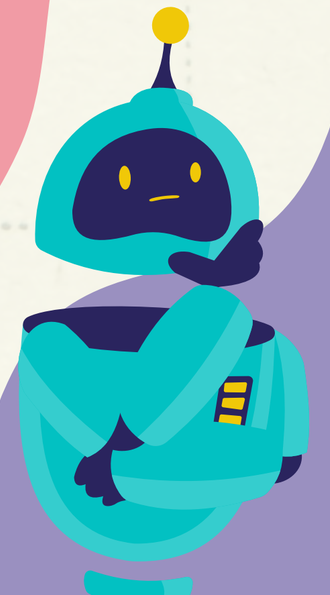
Cut Something on the Vinyl Cutter





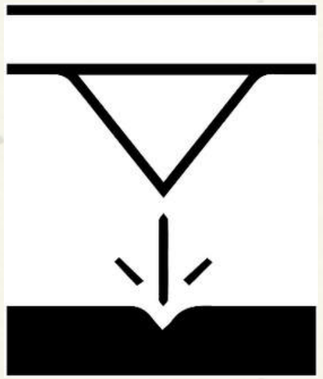
1 VINYL CUTTER

2 LAB PROJECT: BUILD A USELESS BOX



OVER THE NEXT FEW WEEKS WE WILL BUILD A USELESS BOX

Week 2

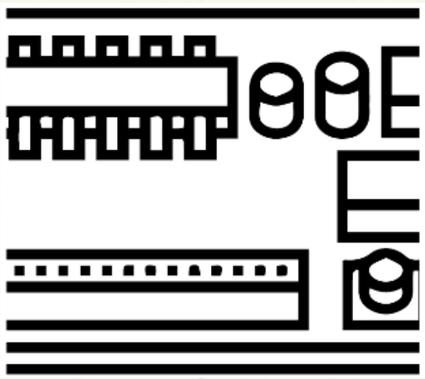


Design and 2D Cut Box Walls

Week 3

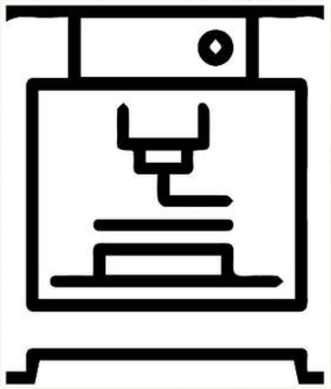
Make Bottom of the Box with Handtools

Week 4



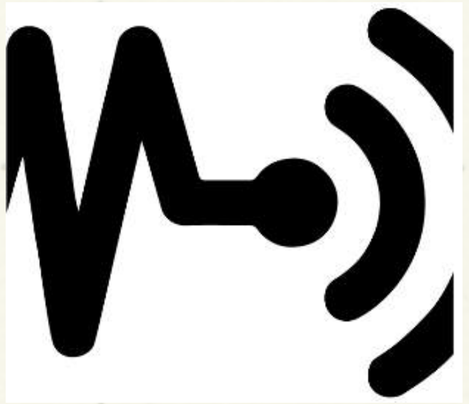
Program the Servos

Week 5



3D Print the Servo Holder

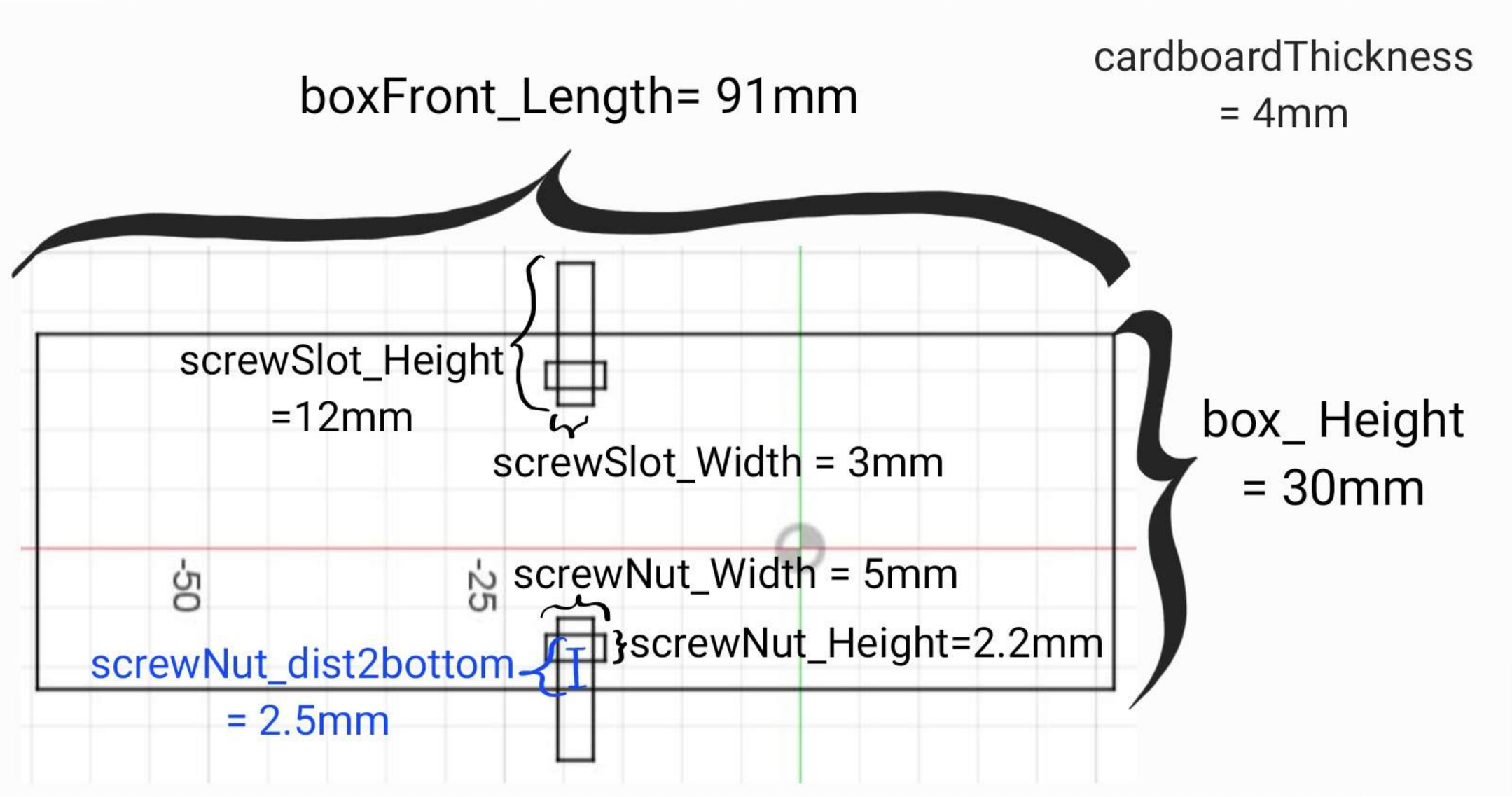
Week 6



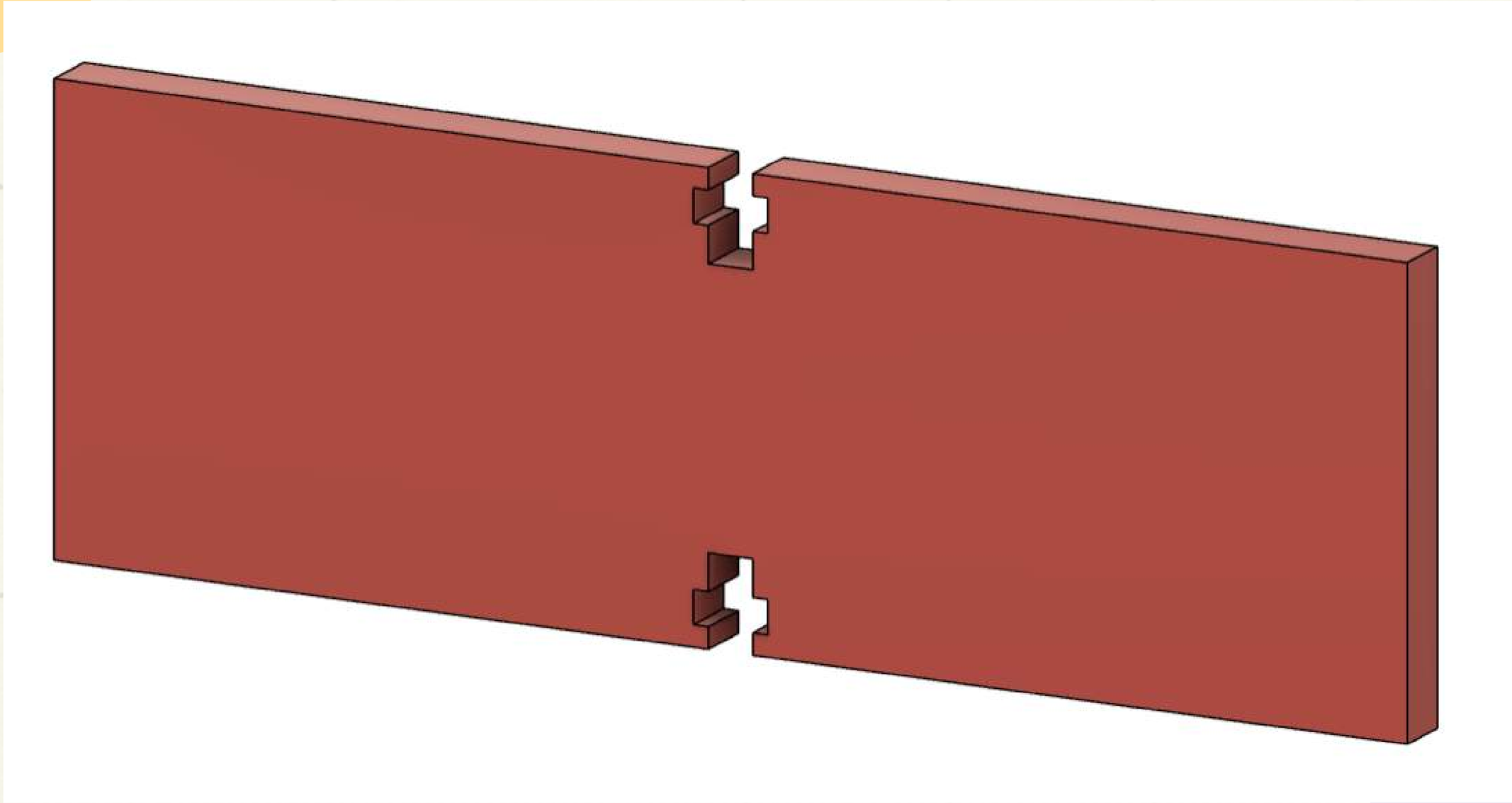
Program a Switch to Open the Box

DESIGN BOX IN FUSION

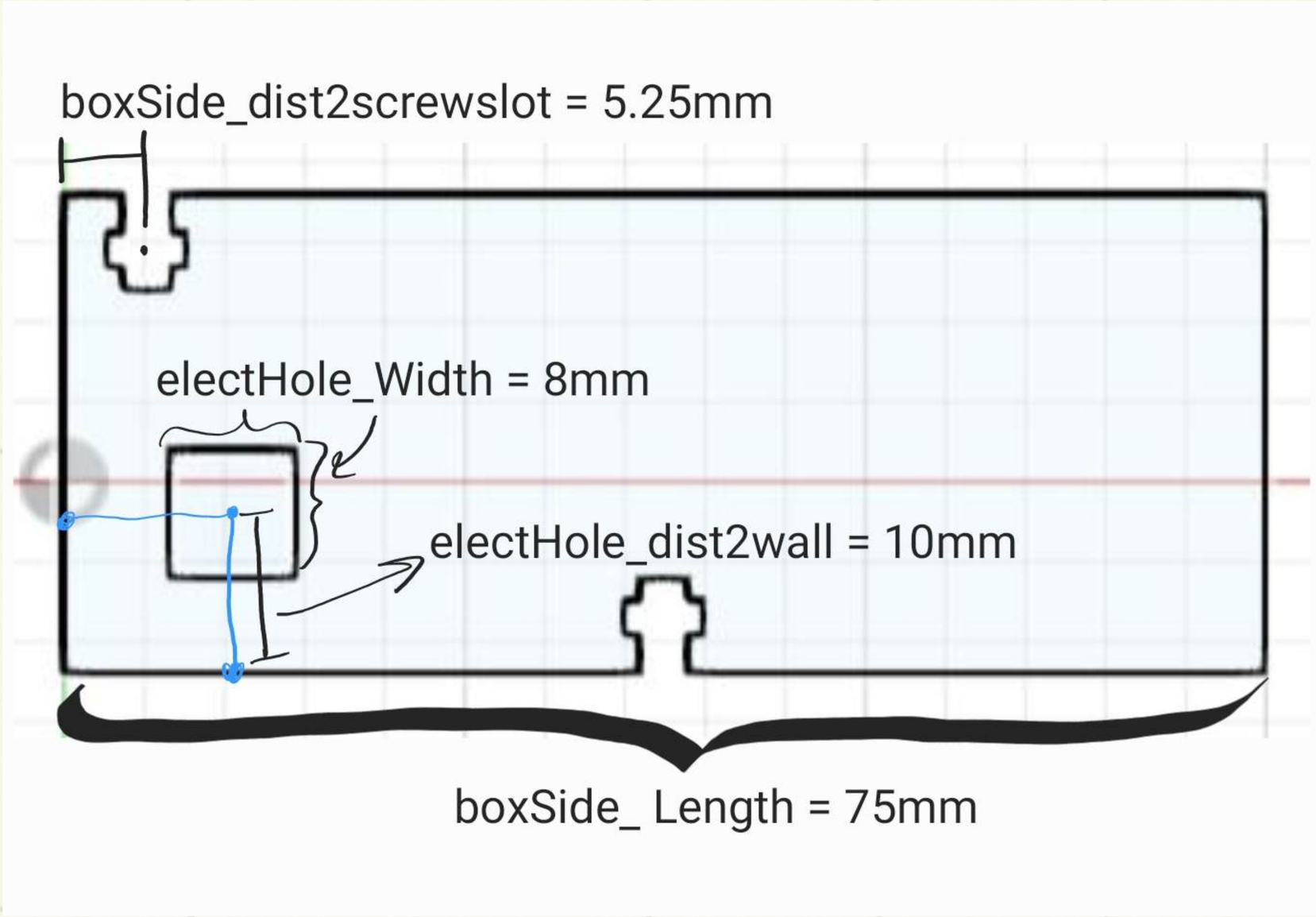
DESIGN BOX IN FUSION360: FRONT PANEL



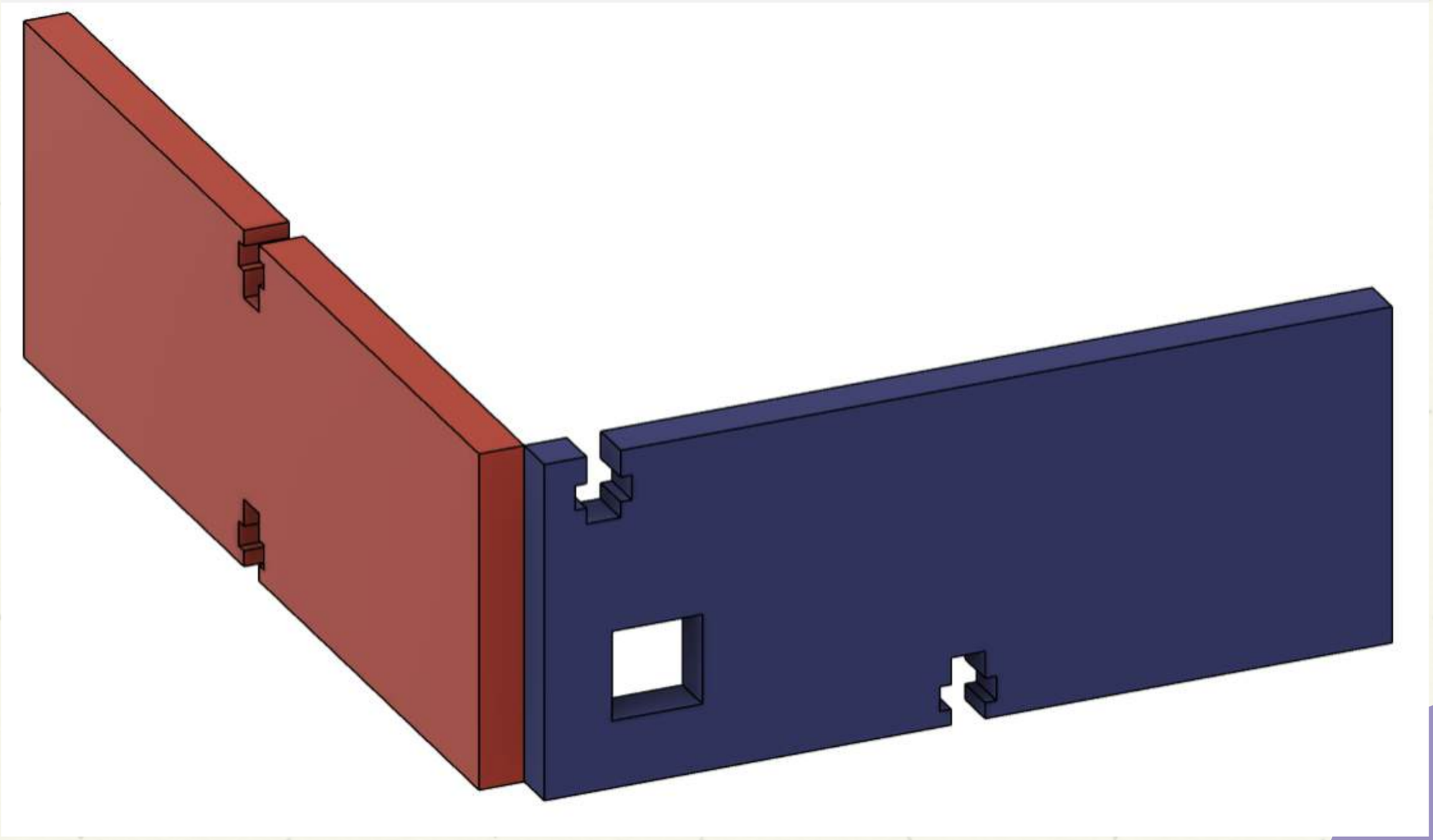
DESIGN BOX IN FUSION360: EXTRUDE FRONT PANEL



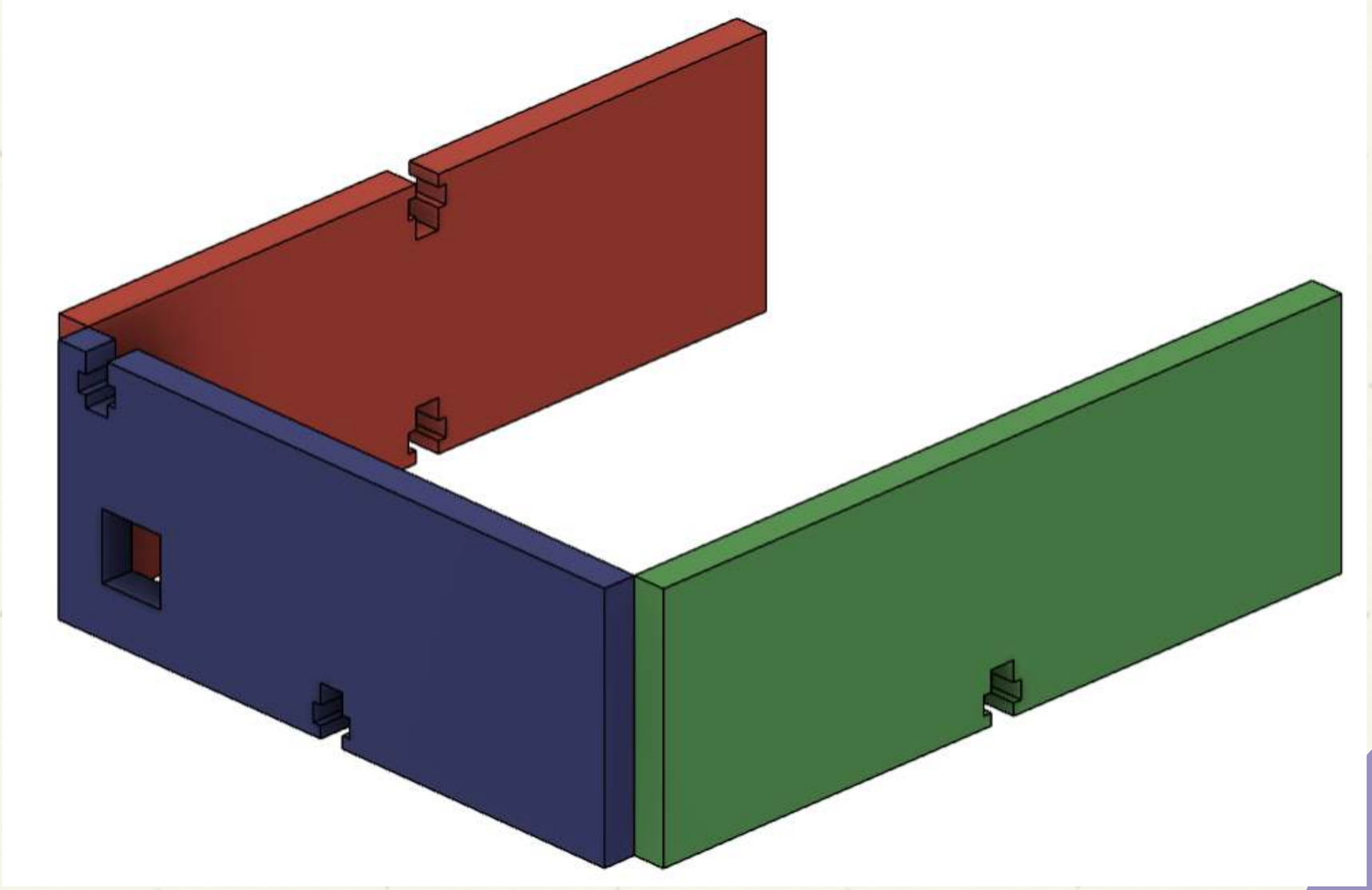
DESIGN BOX IN FUSION360: LEFT PANEL



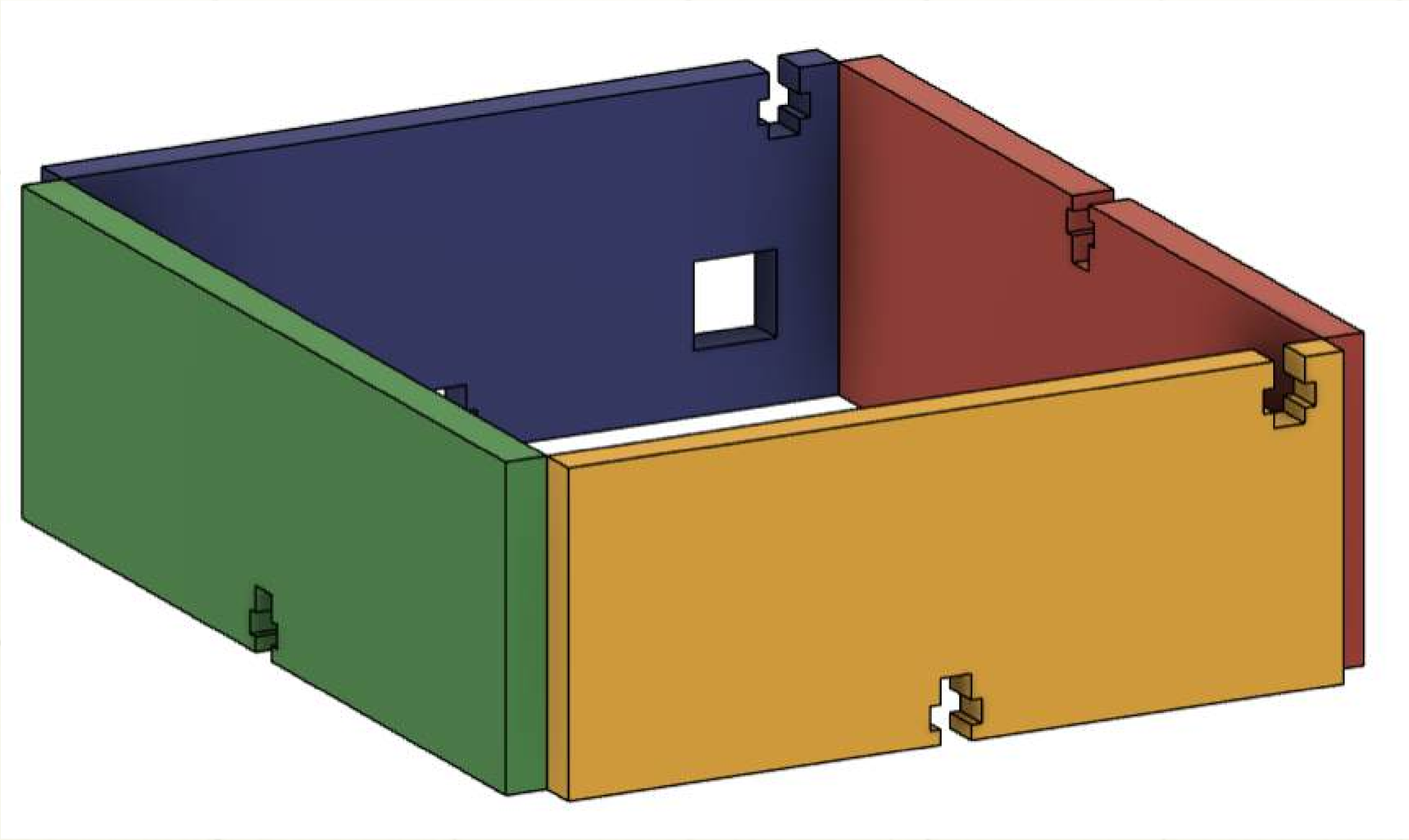
DESIGN BOX IN FUSION360: EXTRUDE LEFT PANEL



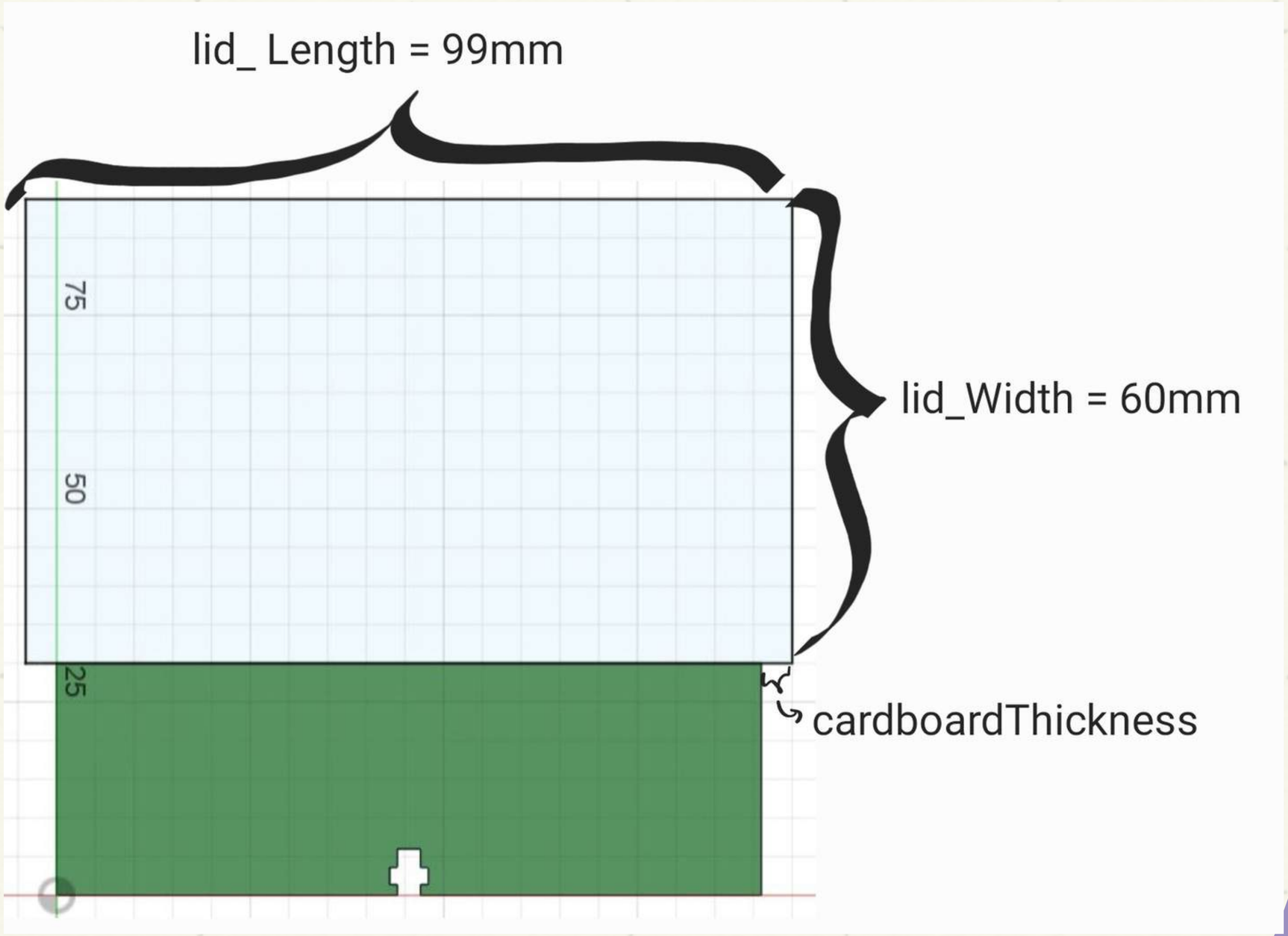
DESIGN BOX IN FUSION360: EXTRUDE (WITH AN OFFSET) FRONT PANEL SKETCH WITHOUT TOP SCREW SLOT TO MAKE BACK PANEL



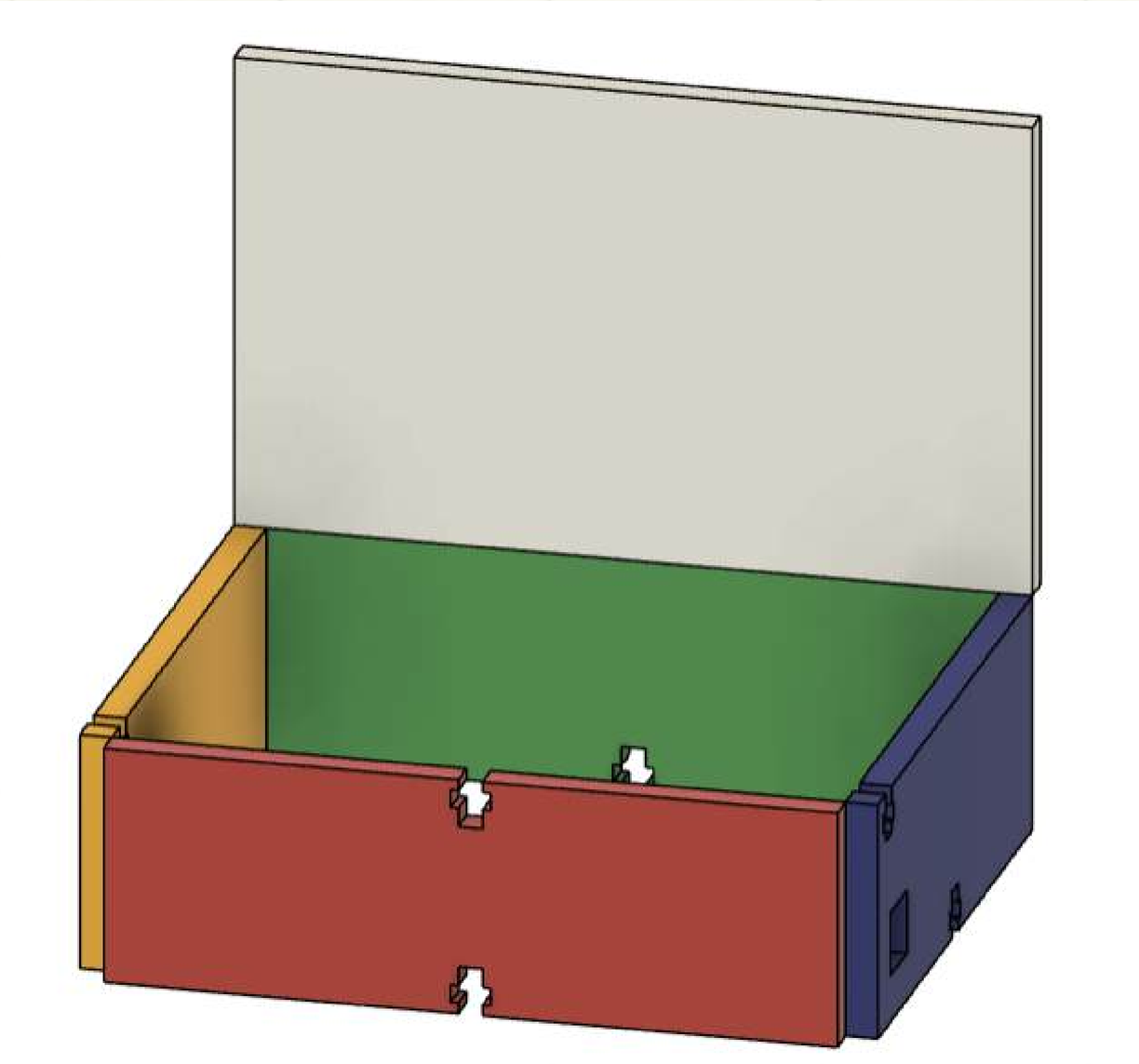
DESIGN BOX IN FUSION360: EXTRUDE (WITH AN OFFSET) LEFT PANEL SKETCH WITHOUT WIRE OUTPUT HOLE TO MAKE RIGHT PANEL



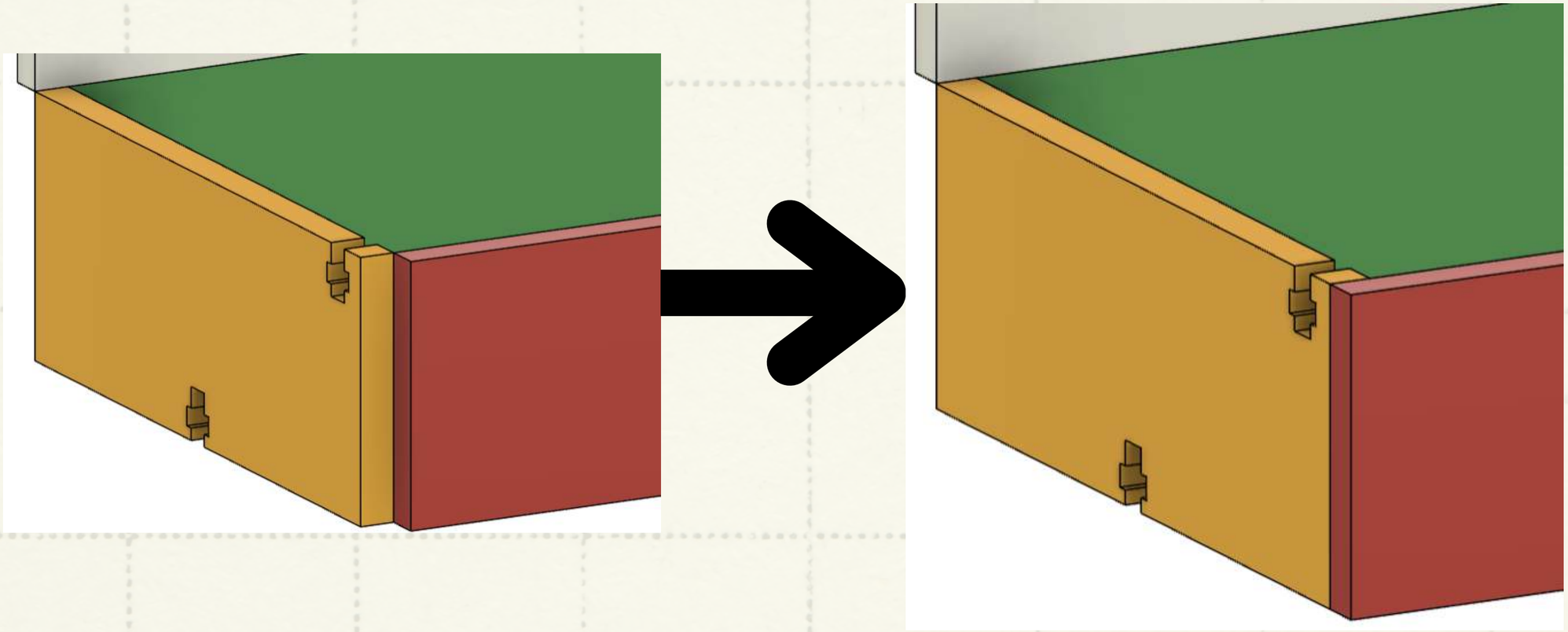
DESIGN BOX IN FUSION360: LID



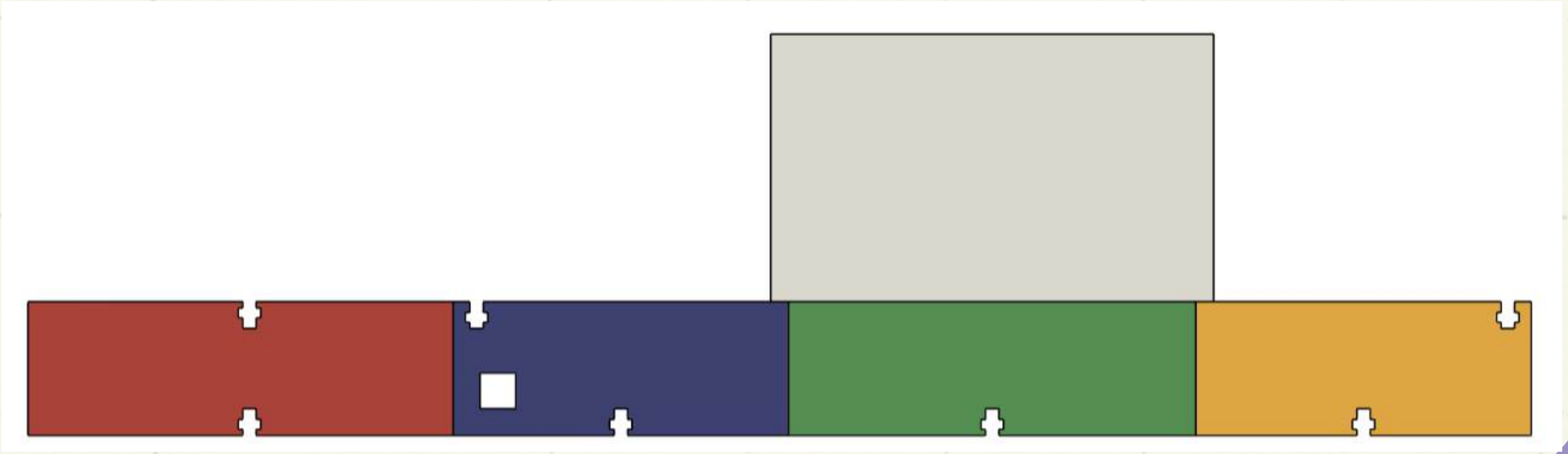
DESIGN BOX IN FUSION360: FULL BOX IN 3D



DESIGN BOX IN FUSION360: EXTRUDE RIGHT SIDE OF FRONT PANEL TO CLOSE THE BOX

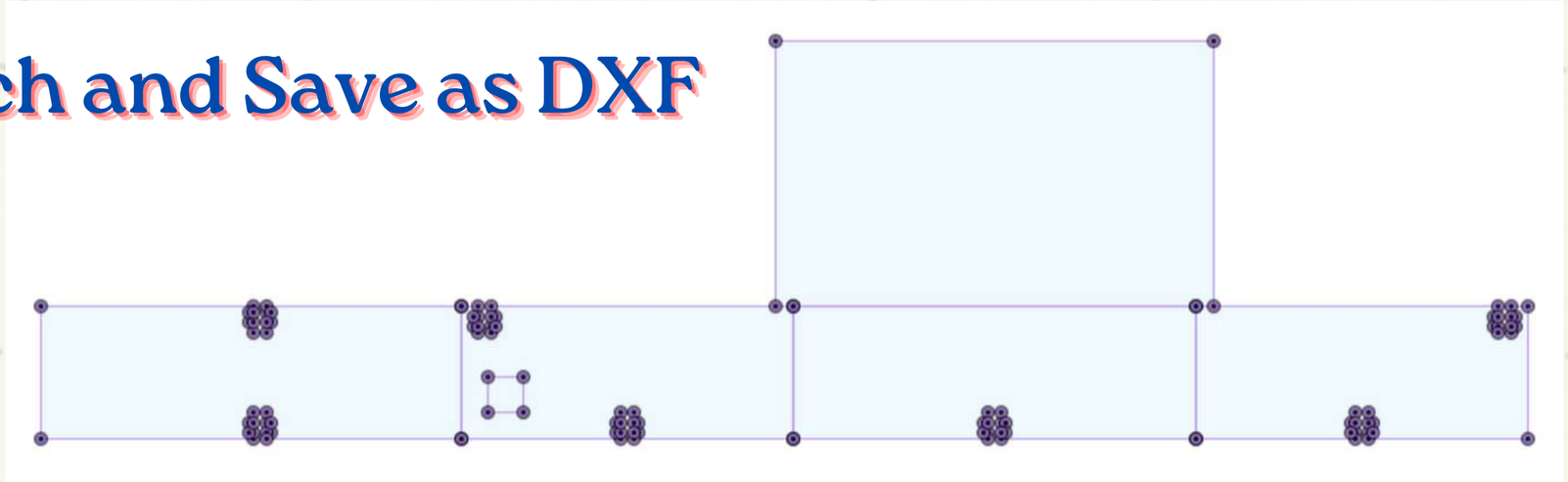


TO PUT THE BOX IN 2D, WE NEED TO ‘UNWRAP’ THE BOX. WE WILL DO THIS USING JOINT RELATIONSHIPS IN FUSION

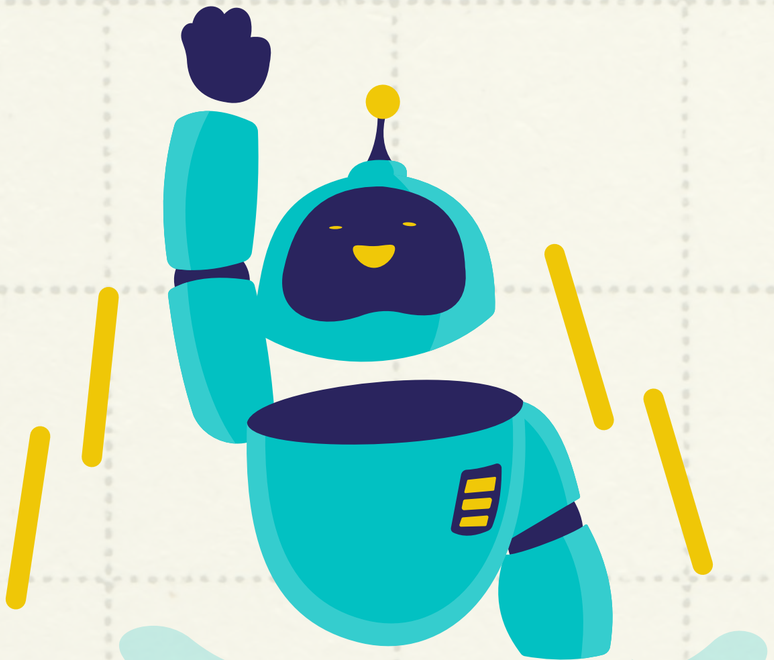


REMEMBER: DO NOT File->Export DXF

Right Click on the Sketch and Save as DXF



Take it to Rhino to put things in the
Cut Layer and Score Layer



Rhino Commands
Explode: Disconnect all line segments
SelDup: Select duplicate lines

LASER CUTTER

Check Settings to make sure the right material is selected and thickness is correct. Don't assume everyone is cutting cardboard!

Use material wisely. Try to minimize wasted material.

Stay by laser cutter to make sure there is no sustained fire.

Have a buddy!

4

Work on the Assignment:

Create a Box

Fusion Tutorials

3D Model 2 Objects

Cut Something on the Vinyl Cutter