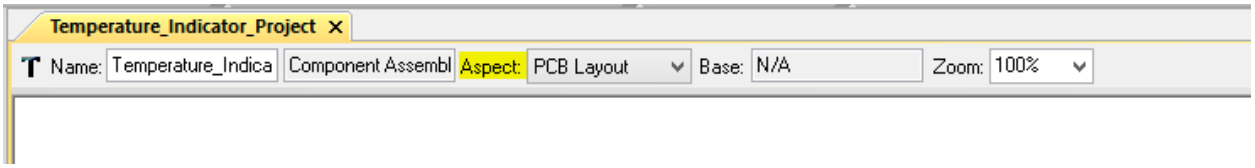
Applying Layout Constraints

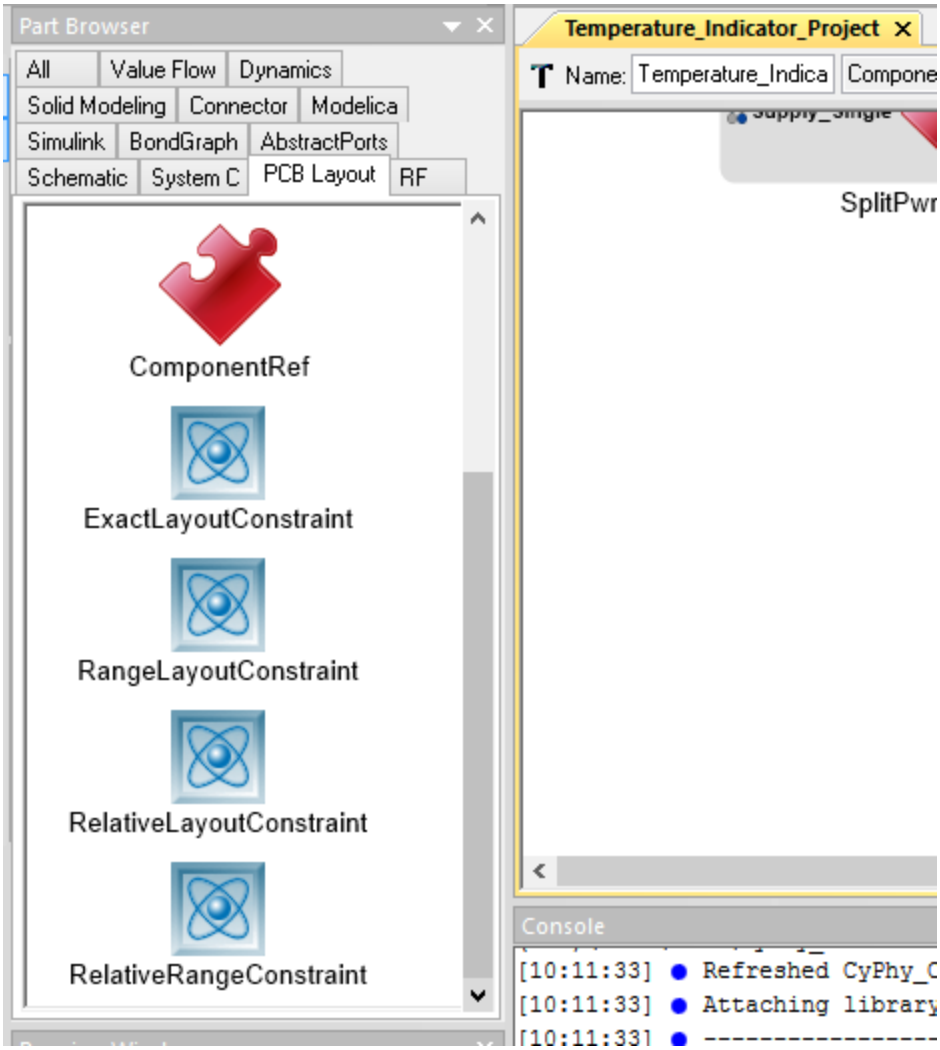
How to Apply Layout Constraints

The following directions will take you step-by-step to adding layout constraints.

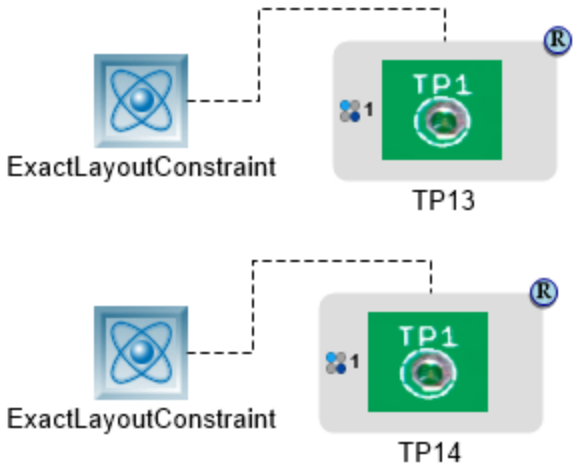
Set aspect view to PCB Layout



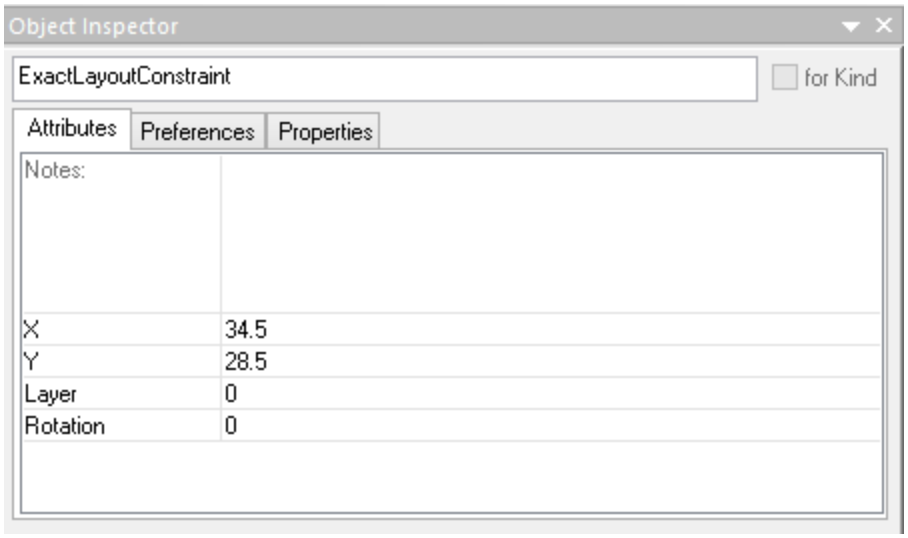
Drag in a Constraint from your parts



Connect constraints to components



Set the X and Y coordinates of the constraint



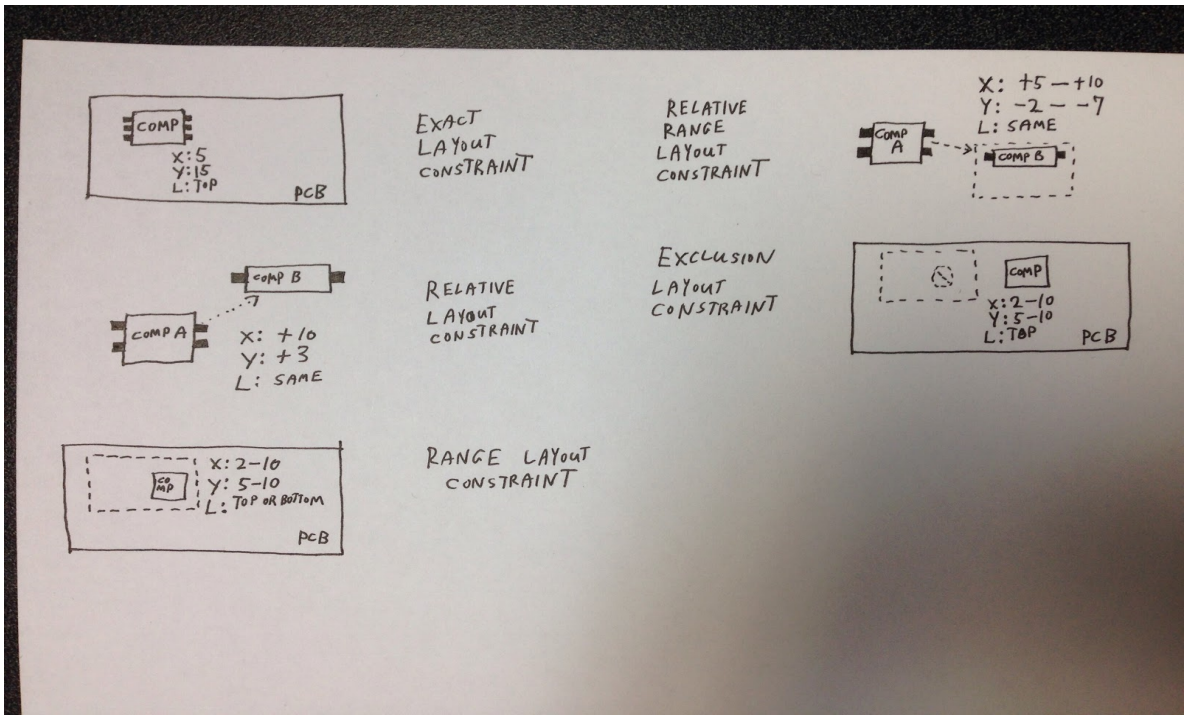
Types of Constraints

With constraints, parts are specified relative to the geometry of the PCB itself, while others are defined in relation to other components.

To use the wedding reception analogy for these:

- **Exact Constraint:** The groom must sit at the center of the head table.
- **Relative Constraint:** The bride must sit 3 feet to the left of the groom.
- **Range Constraint:** Seat me anywhere, as long as it's in the area near the bar.
- **Relative Range Constraint:** Seat my nephew Joey in any seat at the table adjacent to his parents' table
- **Exclusion Constraint*:** Whatever you do, don't put Aunt Cynthia in the area near the bar.

  **Currently not available*



Using Layout Constraints

One of our modeling technicians, Andres, described his [experience using layout constraints] in a blog post:

I opened up my assembly and set my aspect view to PCB Layout. Then, I dragged in a RelativeLayoutConstraint icon and tried two different constraints. The Relative Layout Constraint works by setting one component as the “origin” and the other as the target. To set the origin, first select the component from which the relative constraint will be

made, then connect it to the Relative Layout Constraint. Next, first select the Relative Layout Constraint and then connect it to the component on which the constraint will be applied.In the Object Inspector we can set both an X and Y offset.

First, I wanted to try my original plan of a column. So I set the distance between the LEDs in the object inspector, as can be seen below, and set up the same constraint for all four LEDs. This required a total of three constraints, one from the Blue to Green LEDs, then Green to orange LEDs, and finally the Orange to Red LEDs. Since I wanted to space them equally the same offset was used between all four LEDs.