CEENBoT 324 Board
CEENBoT 324 Board with only preloaded parts
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• If the Parts Map has not been printed, access it [here](#).

• Sort all of your components placing them on the appropriate location on the Parts Map.
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• Assemble the circuit using the following step-by-step directions.
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• Always wear safety glasses when soldering and cutting component leads.
• Double check that you have the correct component and that is oriented correctly – it takes 15 seconds to check but 15 minutes to fix a mistake.
Insert the switches. The pin-outs are rectangular so there are two ways they can be oriented. Either way will work.
Insert the red LED. The longer lead goes into the hole with the + symbol. If you put it the other way, it won’t work.
Insert the green LED’s. The longer lead goes into the hole with the + symbol.
Insert the 3 pin male header. The short end of the leads goes into the board. Only solder one pin. Check that it is seated properly and solder the remaining pins.
Insert the five male headers. See the next slide on how to keep them aligned while soldering. **Solder the SHORT end.**
It is difficult to keep all pins parallel and vertical. Place a female header (the instructor will have some) on the middle row of pins. This will keep all pins aligned and you can use your finger to make sure they are seated properly and are vertical.
Insert and solder the male latched connectors. The short end goes into the circuit board. The white plastic lip aligns with the stripe on the board.
Insert the 20 pin male connector. Make sure that it aligns with the outline on the board, that the notch is toward the middle of the board and no pins are bent under.
Solder the speaker. The lead marked + goes into the hole with the square pad. You may need to spread the leads a little to make it fit.
Inserting the DB9 connectors can be tricky. Make sure all pins are all straight before trying to insert them into the board. After the component is inserted, double check that none of the pins were bent over and that they have all come through the board.
Insert the two DB9 female connectors using the same technique used for the male connector.
• Have the instructor check your completed board for any obvious soldering mistakes. He will also apply power to test it for proper operation.