Lecture 16 - Soldering

- Layout: Protoboard set up much like breadboard
  Best to put components, wires on one side, solder on other.
  \( \Rightarrow \) So you can see everything

- IC sockets: Hard to remove soldered chip
  Better to use socket:
  solder socket to board
  add/remove chip as needed

- Wires: Two types: solid & stranded
  Best to use solid wire for on-board connections (easier)
  Use stranded for off-board connections (flexible)
  I like using strips from ribbon cable:
  Good for groups of off-board wire that go to same place

- Cutting & Stripping: use stripper tool
  Don't make on-board wires too long:
  hard to deal with big loops

  Leave 6" leads for off-board wires
Soldering

Solder component pins to poles on board
Solder = tin-lead alloy, melts at ~200°C
Never solder lead-free, don't work as well
Also contains flux: cleaning agent, makes smoke smell

Technique:
Heat up pole & pin with soldering iron
Works best if iron already "wetted" with a little solder
Apply more to joint (not to iron!)
Apply enough solder to fill in hole
Avoid large blobs

Don't eat the solder. Also, smoke from flux can be irritating,
& iron will burn you

Solder Removal:
Use solder wick
Place over solder, heat with iron
Works best with fresh wick

Schedule:
- Do testing worksheet today, turn in
- Start soldering work due 11/12