Serial Basics

Concept:

The Arduino and Processing environments give access to communication over serial ports. Typically this will involve USB, but some exceptions (like xBee or bluetooth) exist. For two devices (Arduino and a laptop) to successfully communicate via SERIAL both must be using the same PORT and they must be speaking the same BAUD (speed). Serial is embedded in Arduino, but we need to import the processing.serial.* library for Processing. The setup on the right enables the transfer of raw bytes. Check out SCISSORS and GLUE to see how message sending with Serial can be achieved.

Code:

Processing Serial:

```
// import
  import processing.serial.*;

// declare
  Serial myPort;

setup() {

   // LIST PORTS
   println(Serial.list());

   //  Instantiate the Serial object
  myPort = new Serial(this, Serial.list()[0], BAUD);
}

draw() {
   // send and receive BYTES
}
```

Start with this set to 99. It will throw an error but you will see the Serial list. Match your Arduino PORT with the index from the list and re-run.

Arduino Serial:

```
// import
  // built in in Arduino no import needed.

// declare
  // no declaration

setup() {

 Serial.begin (BAUD);

}

loop() {

   // send and receive BYTES
}
```

Examples:

2_TCP_physical_network

Details:

http://processing.org/reference/libraries/serial/index.html

http://arduino.cc/en/Reference/Serial