



YOUR DRAWING MACHINE

Foam core, tape, and fun

Tools

- You have servos for movement
- You have pots for control inputs
 - ▣ Or you can write a program to move things in a specific or random path
 - ▣ (You might have light sensors too...)
- You even have LEDs to dress things up
- We have lots of foam core, tape, pens, etc.

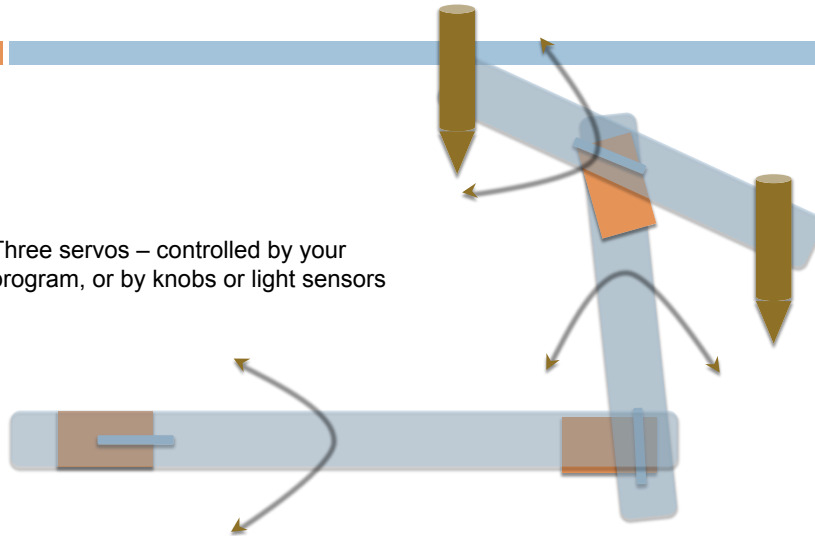
Tools – Multiple Servos

- Each servo needs its own “servo object”

```
#include <Servo.h>           // include the built-in library
Servo servo1, servo2, servo3; // make a servo object for each servo
void setup(){
  servo1.attach(9);          // attach each servo to a different pin
  servo2.attach(10);         // They can all share power and ground
  servo3.attach(11);        // (until you get too many... 3 should be fine)
  ...
}
void loop() {
  ...
  servo1.write(30);          // now you can control each servo
  servo3.write(random(0, 180)); // independently
  servo2.write(sensorValue);
  ...
}
```

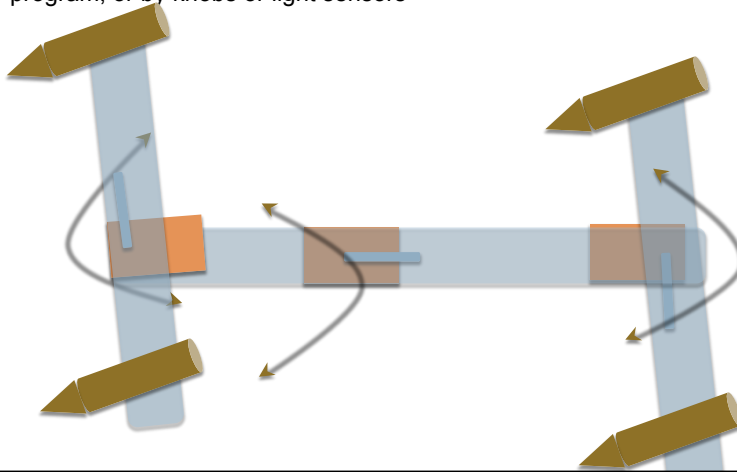
Ideas – Multiple servo arms

Three servos – controlled by your program, or by knobs or light sensors

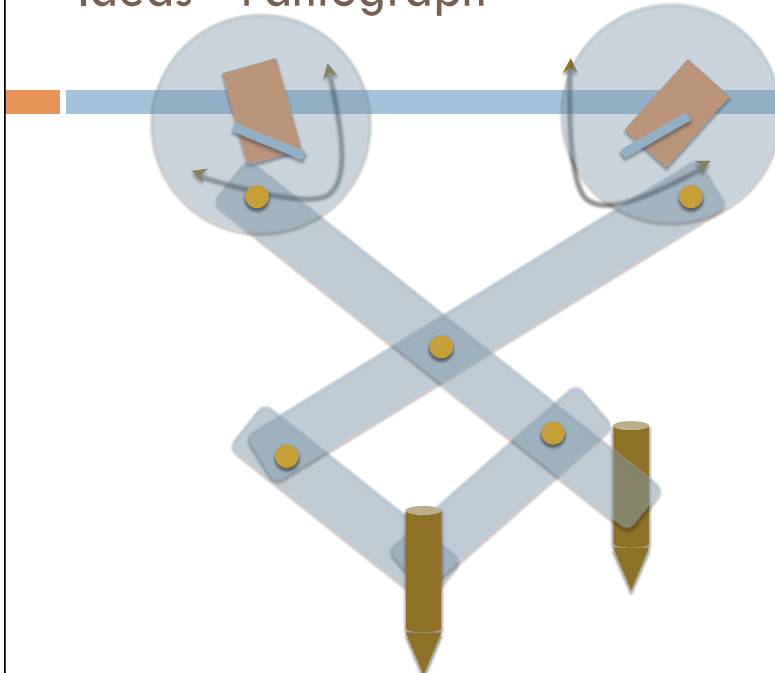


Ideas – Multiple servo arms

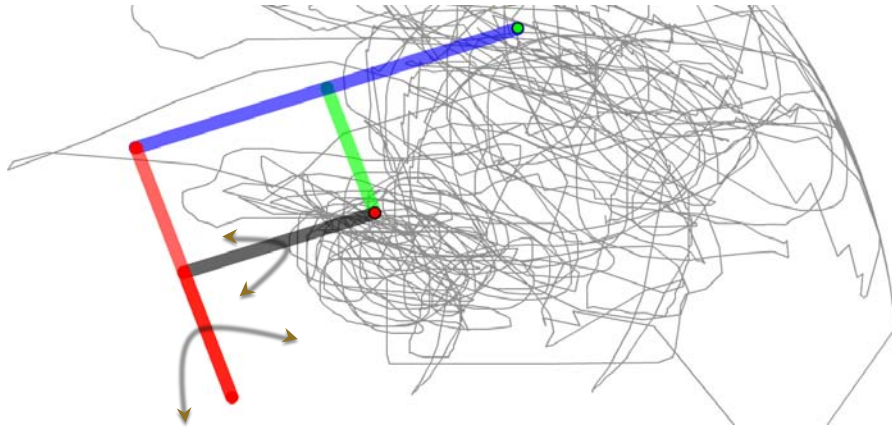
Three servos – controlled by your program, or by knobs or light sensors



Ideas - Pantograph

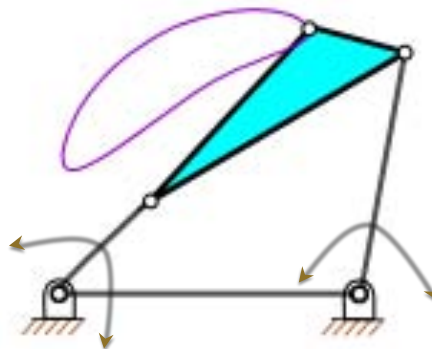


Ideas – A different Pantograph

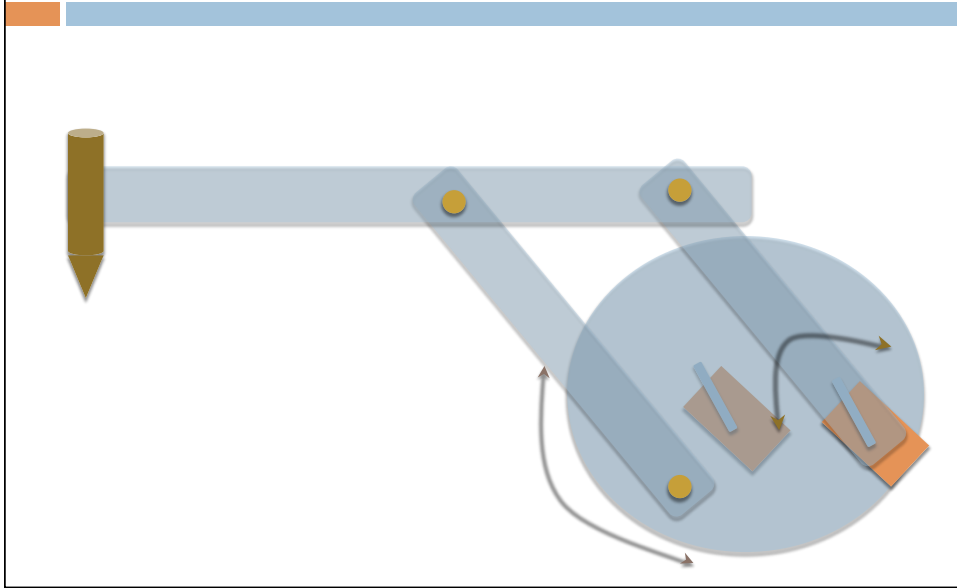


<http://www.mekanizmalar.com/pantograf.html>

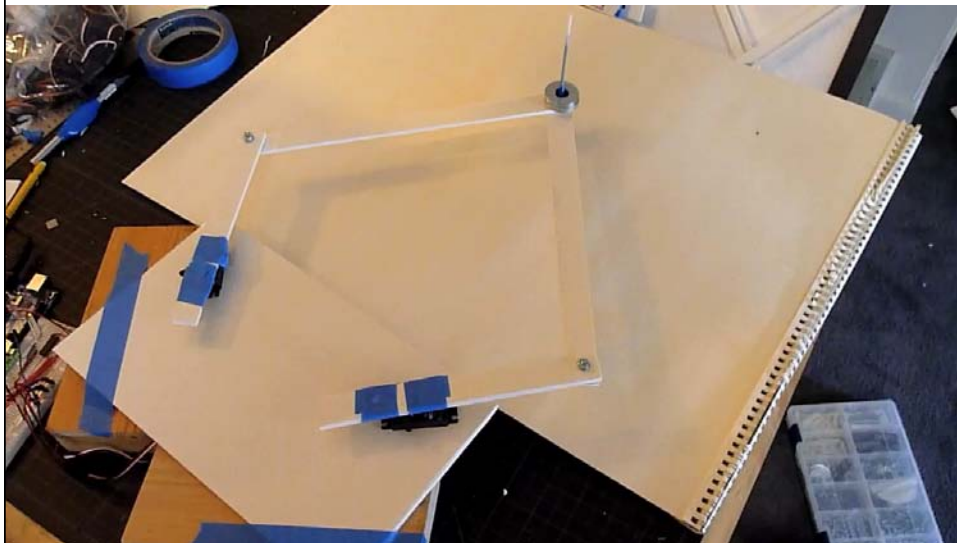
Ideas – A triangle linkage



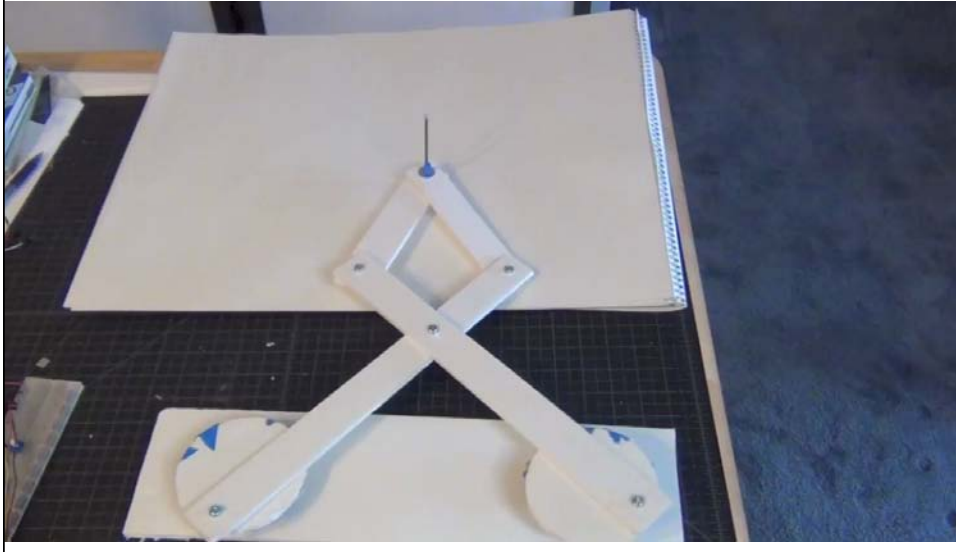
A rotating/linear combination



Our Target



Another Possible Target



Really – anything that makes a mark!

- There should be lots of ways to make a mark with servos, light sensors, pots, and an Arduino...
- Dazzle Us!

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