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// Monty Choy
// Tues -  10/23/18
// Prelab: Arduino Project #1a
// Arduino Mega sketch that makes your Robot move
//along a square path, then stop, and then flash the built-in digit
pin 13 LED

//pins to control motor driver
#define IN1 4
#define IN2 5
#define IN3 6
#define IN4 7

#define  LED_PIN  13

//PWM vals to write to motors to determine speed
#define  LINEAR_SPEED  255
#define  ROTATIONAL_SPEED  255

#define  SIDE_DELAY  1000   //delay time to move one side
#define  ROTATION_DELAY  100  //delay time to rotate 90 degrees

void setup() {
  //setup pin mode for motor driver pins and LED pin
  pinMode(IN1, OUTPUT);
  pinMode(IN2, OUTPUT);
  pinMode(IN3, OUTPUT);
  pinMode(IN4, OUTPUT);
  pinMode  (LED_PIN,  OUTPUT);

  //move  forward
  digitalWrite(IN1, LOW);
  analogWrite(IN2, LINEAR_SPEED);
  digitalWrite(IN3, LOW);
  analogWrite(IN4, LINEAR_SPEED);
  delay(SIDE_DELAY);

  //rotate  90 degrees  right
  digitalWrite(IN1, LOW);
  digitalWrite(IN2, LOW);
```

```
digitalWrite(IN3, LOW);
analogWrite(IN4,    ROTATIONAL_SPEED);
delay(ROTATION_DELAY);

//move  forward
digitalWrite(IN1, LOW);
analogWrite(IN2, LINEAR_SPEED);
digitalWrite(IN3, LOW);
analogWrite(IN4, LINEAR_SPEED);
delay(SIDE_DELAY);

//rotate  90  degrees  right
digitalWrite(IN1, LOW);
digitalWrite(IN2, LOW);
digitalWrite(IN3, LOW);
analogWrite(IN4,    ROTATIONAL_SPEED);
delay(ROTATION_DELAY);

//move  forward
digitalWrite(IN1, LOW);
analogWrite(IN2, LINEAR_SPEED);
digitalWrite(IN3, LOW);
analogWrite(IN4, LINEAR_SPEED);
delay(SIDE_DELAY);

//rotate  90  degrees  right
digitalWrite(IN1, LOW);
digitalWrite(IN2, LOW);
digitalWrite(IN3, LOW);
analogWrite(IN4,    ROTATIONAL_SPEED);
delay(ROTATION_DELAY);

//move  forward
digitalWrite(IN1, LOW);
analogWrite(IN2, LINEAR_SPEED);
digitalWrite(IN3, LOW);
analogWrite(IN4, LINEAR_SPEED);
delay(SIDE_DELAY);

//rotate  90  degrees  right
```

```
    digitalWrite(IN1, LOW);
    digitalWrite(IN2, LOW);
    digitalWrite(IN3, LOW);
    analogWrite(IN4,   ROTATIONAL_SPEED);
    delay(ROTATION_DELAY);

    //stop all motors
    digitalWrite(IN1, LOW);
    digitalWrite(IN2, LOW);
    digitalWrite(IN3, LOW);
    digitalWrite(IN4, LOW);

    //flash LED
    digitalWrite(LED_PIN, HIGH);
    delay(100);
    digitalWrite(LED_PIN, LOW);
    delay(100);
    digitalWrite(LED_PIN, HIGH);
    delay(100);
    digitalWrite(LED_PIN, LOW);
    delay(100);
    digitalWrite(LED_PIN, HIGH);
    delay(100);
    digitalWrite(LED_PIN, LOW);

}

void loop() {

}
```