

Project 5 - Crossing the road

Copy and Paste the code below into the Arduino sketch window. Verify and upload the code to the board.

```
// Project 5 - Crossing the road

int carRed = 12; // assign the car lights
int carYellow = 11;
int carGreen = 10;
int pedRed = 9; // assign the pedestrian lights
int pedGreen = 8;

int button = 2; // button pin
int crossTime = 5000; // time allowed to cross
unsigned long changeTime; // time since button pressed

void setup() {
  pinMode(carRed, OUTPUT);
  pinMode(carYellow, OUTPUT);
  pinMode(carGreen, OUTPUT);
  pinMode(pedRed, OUTPUT);
  pinMode(pedGreen, OUTPUT);
  pinMode(button, INPUT); // button on pin 2
  // turn on the green light
  digitalWrite(carGreen, HIGH);
  digitalWrite(pedRed, HIGH);
}

void loop() {
  int state = digitalRead(button);
  /* check if button is pressed and it is
  over 5 seconds since last button press */
  if (state == HIGH && (millis() - changeTime) > 5000) {

    // Call the function to change the lights

    changeLights();
  }
}

void changeLights() {
```

```
digitalWrite(carGreen, LOW); // green off
digitalWrite(carYellow, HIGH); // yellow on
delay(2000); // wait 2 seconds

digitalWrite(carYellow, LOW); // yellow off
digitalWrite(carRed, HIGH); // red on
delay(1000); // wait 1 second till its safe

digitalWrite(pedRed, LOW); // ped red off
digitalWrite(pedGreen, HIGH); // ped green on
delay(crossTime); // wait for preset time period

// flash the ped green
for (int x=0; x<10; x++) {

    digitalWrite(pedGreen, HIGH);
    delay(250);
    digitalWrite(pedGreen, LOW);
    delay(250);

}

// turn ped red on

digitalWrite(pedRed, HIGH);
delay(500);

digitalWrite(carYellow, HIGH); // yellow on
digitalWrite(carRed, LOW); // red off
delay(1000);
digitalWrite(carGreen, HIGH);
digitalWrite(carYellow, LOW); // yellow off

// record the time since last change of lights

changeTime = millis();

// then return to the main program loop

}
```