Assessment - Pattern-Blinking LED

Physical Science and Technology

This lesson was adapted from original work by Limor Fried that is posted on http://www.ladyada.net/learn/arduino.

The goal of this activity is to make an Arduino controller cause an LED (a type of light bulb) to blink on and off in a specific pattern.

Begin by hooking up the Arduino controller and running the main Arduino program. Under the "Tools" menu, make sure to check that the correct board and port are chosen.

Open the blink sketch by going to the File menu and choosing "Examples", "Basics", "Blink". Then, follow the instructions below to cause an external LED to blink in three specific patterns.

Instructions:

1. Modify the code so that the output pin will be digital pin 10
2. Modify the code so that the LED will cycle through the following sets of blinking patterns:
    a. 1 second on, 2 seconds off (Repeat 4 times)
    b. 0.5 seconds on, 4 seconds off (Repeat 2 times)
    c. 2 seconds on, 0.25 seconds off (Repeat 4 times)
3. Make sure that your code is properly formatted and commented
4. Using a breadboard, jumpers, and the supplied LED and resistor, correctly wire the LED to the Arduino
5. Verify, compile, and upload the code to test your project
6. Modify and correct your code and wiring, if necessary