

Make a Lamp due Sep 4, 11:59 PM

We have seen how to control LEDs from a program running on the Arduino. You can blink, fade, or switch on and off the LEDs. By connecting three LEDs with different colors, you can mix colored light.

Build a lamp (an illuminating device - for example, a nightlight is considered a lamp here) that uses three colors of LEDs - to make different colors and/or patterns in time of light.

There are two main components(and purposes) to this exercise:

- (1) you will need to understand the Arduino programs for blinking and fading LEDs and feel comfortable modifying these programs to a desired effect.
- (2) you will need to build the electronics into a physical form of some kind of lamp.

For this exercise, you are not expected to control the lamp using switches or sensors, but of course you are welcome to move ahead and do that, to make the lamp responsive to its environment.

Document your project on the class blog.

Your document serves two purposes, both equally important. The first is to show your project - people can immediately see the result of your labors. The second is to give someone who reads your document can build it too. That means you must provide enough information about what you did so that someone like you can follow the instructions. A post that only shows the project (part one) is only half of what you must do.

Your document should include a short text description of the lamp that explains it (imagine you are explaining this to someone at a party, and you don't have a picture of it to show them). Also include photographs as necessary. If a video of the lamp in action would substantially enhance the document, feel free to post a YouTube video, but this is not required. Wiring diagrams, step-by-step instructions, photos of the technical details, and code are all part of the "how-to" part of the document.