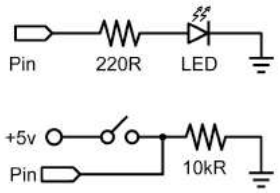
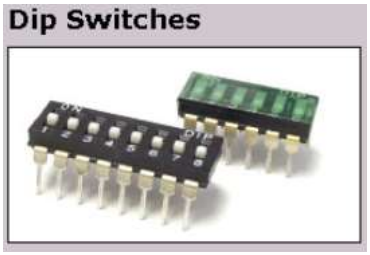
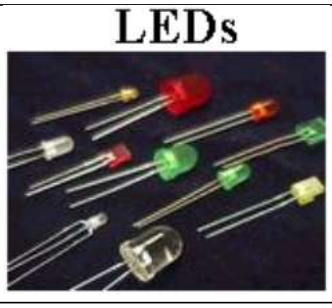
ECE-5620, F17 Assignment-1 (100 Points) Due Date: Sep 28, 2017

The purpose this lab assignment is to get familiar about how to control LEDs and flash them at different rates, based on the positions of three switches.







The above diagram shows how you can connect an LED and a Switch to a Pin of the Arduino Board. Connect five LEDs. LED1 through LED5, to 5 digital pins of Ard

Based on the positions of the switches, the LEDs should be controlled as follows:

SW3	SW2	SW1	Operations
Open	Open	Open	**Continuously flash all 5 LEDs at 1 flash/sec**
Open	Open	Closed	**This time only one LED should flash at a particular time.** **STEP1:** First, flash LED1 at 1 flash/second for 2 seconds; then flash LED2 at 1 flash/second for 2 seconds; then do the same for LED3, and so on unti **STEP2:** Now go in the reverse direction, meaning flash LED4 at 1 flash/second for 2 seconds; then flash LED3 at 1 flash/second for 2 seconds; and so
Open	Closed	Open	This case is the same as the previous case, but now the flash rate should be 2 flashes/second.
Open	Closed	Closed	This case is also the same as the previous case, but now the flash rate should be 4 flashes/second.
Closed	Open	Open	This time the flash rate will be 1 flash/second, but the LEDs should be controlled as: Simultaneously flash LED1 and LED5 for 2 seconds. Then simultaneously flash LED2 and LED4 for 2 seconds. Then flash only LED3 for 2 seconds. Continuously repeat the above process.
Closed	Open	Closed	This case is the same as the previous case, but now the flash rate should be 2 flashes/second.
Closed	Closed	Open	This case is also the same as the previous case, but now the flash rate should be 4 flashes/second.
Closed	Closed	Closed	This time all 5 LEDs will flash simultaneously, but each LED will flash at a different rate as shown below. LED1 will flash at 1 flash/sec, LED2 will flash at 2 flashes/sec, LED3 will flash at 3 flashes/sec, LED4 will flash at 4 flashes/sec, and LED5 will fla

Note: In order to get 1 flash in every N seconds, the LED must be ON for N/2 seconds and then OFF for N/2 seconds, and the process must be repeated continuously.

You must turn in a hard copy of your well documented program to the TA, and you must also demonstrate your homework