CS 33301-01

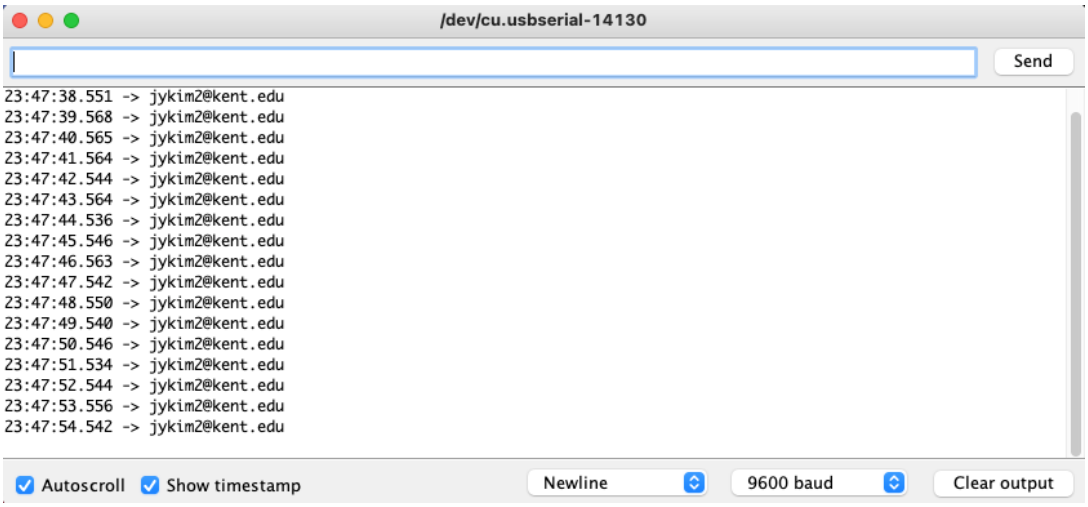
Fall 2021

Project 3: Timer

Write a program with appropriate comments. Input switch should be working with the external interrupt. HW Connection: Using External Interrupt 0 for input switch (normal state is high and pushed state is low) and no need to add an external LED.

1. Initial state: Internal LED OFF

Using a Timer Interrupt (Any Timer with Timer Interrupt), write a program for blinking LED every one second. In order to make an accurate one second timer, serial communication function can be used. Setting Registers of Timer, LED blink and Serial data to your email address. Refer to the figure below.



2. initial state: internal LED OFF

a. When the pushed button is pushed. → blinking LED every one second
b. When the pushed button is pushed. → blinking LED every two seconds
c. When the pushed button is pushed. → blinking LED every three seconds
d. When the pushed button is pushed. → blinking LED every four seconds

… (Repeat a – d)

% You should not use any Arduino function, except [Serial.begin(9600) and Serial.println("jykim2@kent.edu")].

% Any code from Arduino library except [Serial.begin(9600) and Serial.println("jykim2@kent.edu")], is found, it will be directly zero point.

% We will not accept any H/W issues on due date and one day before. If you have H/W issues, please contact the GA as soon as possible.

% Use a ATMega328 Datasheet for checking the registers' information