

## Assignment 1

Q1:

Aim: Write and implement a program to ~~FADE~~ FLASH or SCROLL 3 LEDs continuously

Apparatus : 3 LEDs, Arduino uno board, connecting wires.

Algorithm:

1. Set pinmode to output to led1=13, led2=12, led3=8. in setup() function.
2. First turn on all leds with digital write to HIGH on all 3 leds.
3. In the next 3 consecutive steps turn off each LED with digital write to LOW with a delay of 2500ms between each digital write. After this all 3 LEDs must be in LOW state.
4. In the next 2 consecutive steps turn on LED2 & led3 to HIGH with delay of 500ms

## Program:

// Initialize led to output pins

int led1=13;

int led2=12;

int led3=8;

// setup loop

void setup() {

pinmode(led1,OUTPUT);

pinmode(led2,OUTPUT);

pinmode(led3,OUTPUT);

// setting output modes to the LEDs  
connected to respective pins

}

// loop function

void loop() {

Here the 3 bits indicate  
brightness, 1=HIGH, 0=LOW and  
each bit represents each led  
respectively. (led1, led2, led3)

1111 (turn on all leds);

digitalwrite(led1,HIGH);

Digital write(led2,HIGH);

Digital write(led3,HIGH);

delay(1000); // delay of 1sec

//011 (Turn off led1)

digitalWrite(led1, LOW);  
delay(400)

//001 (Turn off led2)

digitalWrite(led2, LOW);  
delay(4000)

//000 (Turn off led3)

digitalWrite(led3, LOW);  
delay(4000)

//001 (Turn on LED3)

digitalWrite(led3, HIGH);  
delay(4000)

//011 (Turn on led2)

digitalWrite(led2, HIGH);

delay(4000)

//End loop

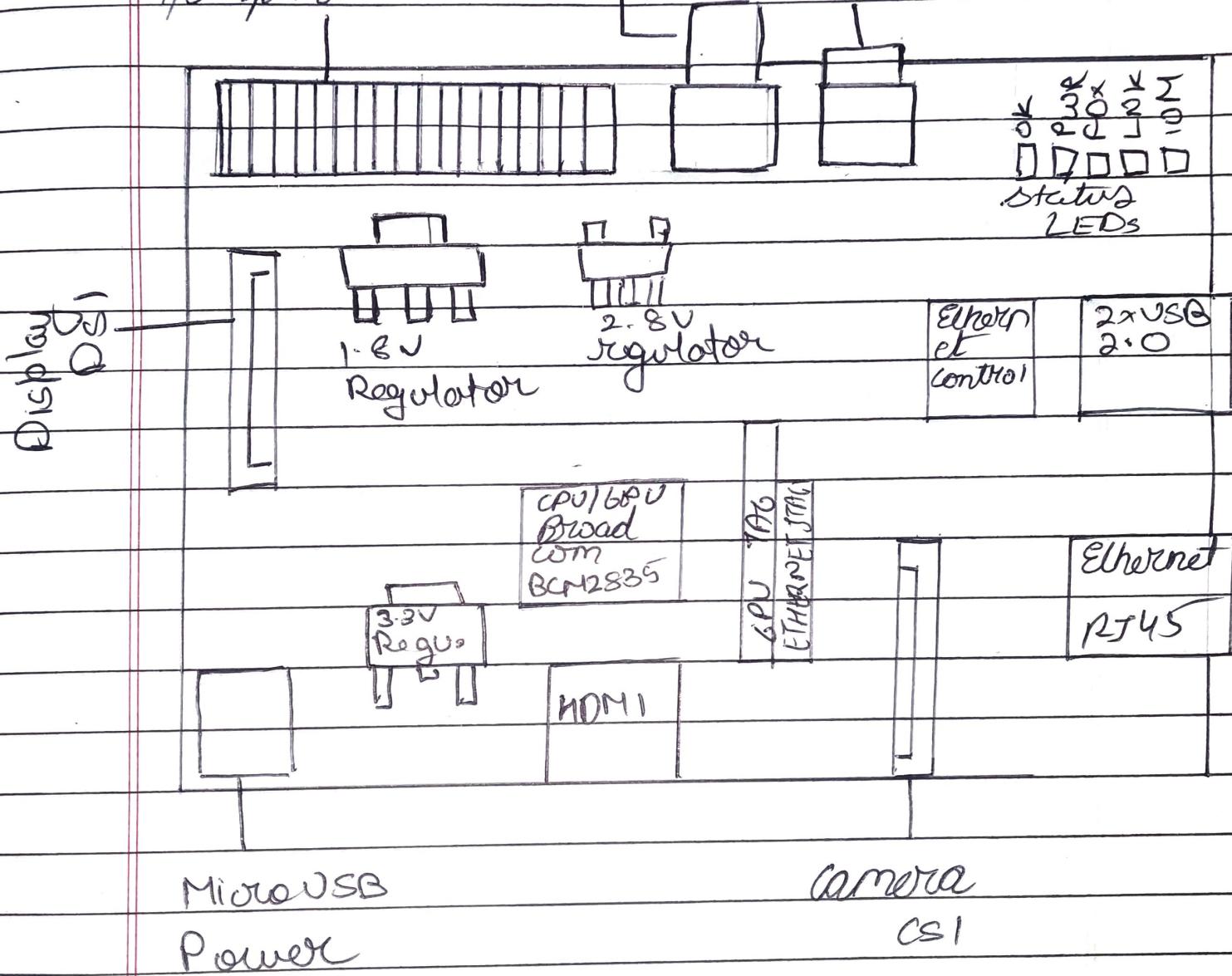
3

## Arduino UNO

	3V3	5V	Vin	
Power				
RST			D13	
REF			D12	
			D11	PWM
			D10	PWM
A0			D9	PWM
A1	3		D8	
A2	2		D7	
A3	80		D6	PWM
A4	5		D5	PWM
A5	4		D4	
			D3	
			D2	
			D1	
			D0	
GND				

# Raspberry pi

General purpose I/O pins      Composite video RCA      3.5mm audio out



Expected Output:  
scroll flashing of 3 leds.