

## Dome Project – LEDs brightness control

- Mechanism

It is similar with the PWM, to control the brightness by setting the delay time of LEDs on and off. We test that when the total delay time is about 20 milliseconds, then we can't distinguish the LEDs on and off.

Furthermore, when the delay time of on and off are equal, then the brightness becomes 50% of full brightness. If the delay time of LEDs on is 25%, and the delay time of LEDs off is 75%, then it becomes 25% of full brightness, and so on.

- Implementation

We test on Arduino uno board, with two LEDs parallel connected, and the total delay time (on and off) is 20 milliseconds.

After uploading the code to the board, open an serial monitor, input a number ranging from 0 ~ 255, then it will set the delay time of LEDs on and off accordingly, then it will adjust the brightness automatically.

The code can be seen by the attachment.

- Project Share

We create a repository project called Dome in the github, which can be accessed by:

<https://mchen2016@github.com/mchen2016/Dome.git>

We are going to share all files and codes into this repository; it is convenient to organize since it has the version and collaboration function.