

PWM Worksheet

1. Use onboard-LEDs as well as the onboard user-button and generate PWM:

- User-button **not pressed**:
 - LEDall: from 0% to 100% brightness in 700ms
 - LEDall: off – 300ms

- User-button **pressed**:
 - LEDall: from 100% to 0% brightness in 700ms
 - LEDall: off – 300ms

- Use State Machine Design Pattern!

2. Implement Sleep-Timer Application: In initial-state, all LEDs are at full brightness. When the user-button is pressed, the LEDs brightness begins to decrease – one by one, until all is dark. Choose the timing parameters as you wish! When the user button is released, all turns to full bright.

- All 4 LEDs are full bright
- LED1 fades to dark
- LED2 fades to dark

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Use State Machine Design Pattern!