

Led:

```
int s = A0, led = 13;
```

```
float th = 40;
```

```
void setup() {  
    pinMode(led, OUTPUT);  
}
```

```
void loop() {  
    float t = (analogRead(s) * 5.0 / 1023.0) * 100.0; // LM35 → °C  
    digitalWrite(led, t > th);  
}
```

PWM

```
#include <stdio.h>
```

```
#include <unistd.h>
```

```
void pwm_simulate(int duty, int period_ms)  
{  
    int high = (duty * period_ms) / 100;  
    int low  = period_ms - high;  
  
    printf("HIGH for %d ms\n", high);  
    usleep(high * 1000);  
  
    printf("LOW for %d ms\n", low);  
    usleep(low * 1000);  
}
```

```
int main()  
{  
    int duty = 40;  
    int period = 1000;  
  
    while (1)  
    {  
        pwm_simulate(duty, period);  
    }  
}
```