Assignment 3 if for while conditions structure

Released Date: Oct 15th

Version 1.0

Format: Name the document in the combination of name、ID and No. of Assignment.

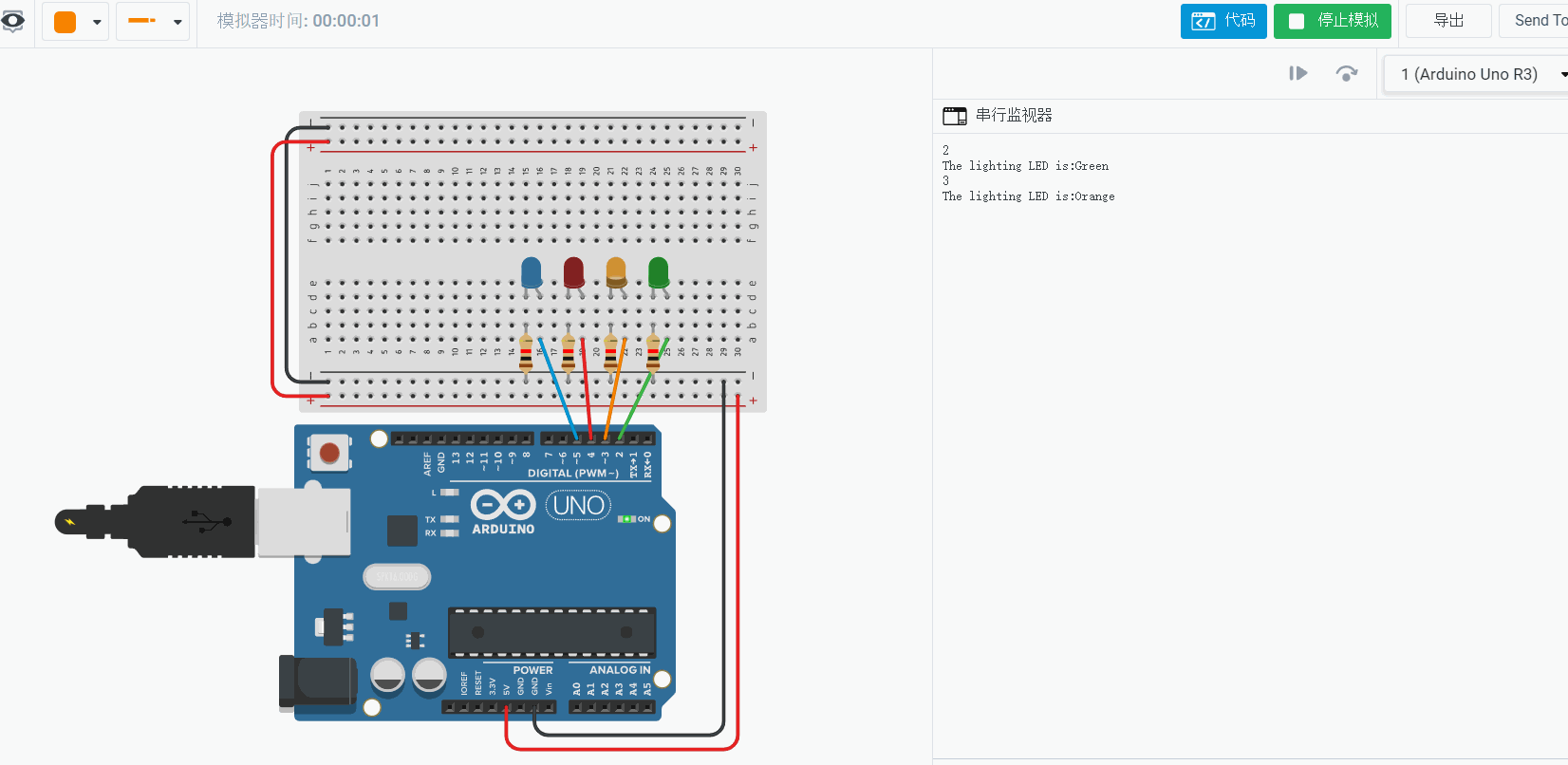
**Example: Ping Yi\_23\_Assignment1.doc**

**Email the document to “pingy@wxit.edu.cn” before Oct 18th.**

**Task 1** 4 LEDs are connected to Arduino Uno, try to use for cycle structure to make a 1s shift effect.

任务1 使用4个LED连接至Arduino Uno，尝试使用for循环结构，实现1s位移点亮的效果。

**You could use Tinker CAD or Proteus for the verifying.可使用在线工具Tinker CAD或Proteus进行仿真。**



**Fig 1 LED Shift Light**

|  |  |
| --- | --- |
|  | 1. int LEDblue**=**5**;** 2. int LEDred**=**4**;** 3. int LEDyellow**=**3**;** 4. int LEDgreen**=**2**;** 5. void setup**()** 6. **{** 7. pinMode**(**LEDblue**,** OUTPUT**);** 8. pinMode**(**LEDred**,** OUTPUT**);** 9. pinMode**(**LEDyellow**,** OUTPUT**);** 10. pinMode**(**LEDgreen**,** OUTPUT**);** 11. **}** 12. void loop**()** 13. **{** 14. **for(**int x**=**0**;** x**<**4**;** x**++){** 15. digitalWrite**(**LEDblue**,**HIGH**);**     1. delay**(**1000**);**     2. digitalWrite**(**LEDblue**,**LOW**);**     3. digitalWrite**(**LEDred**,**HIGH**);**     4. delay**(**1000**);**     5. digitalWrite**(**LEDred**,**LOW**);**     6. digitalWrite**(**LEDyellow**,**HIGH**);**     7. delay**(**1000**);**     8. digitalWrite**(**LEDyellow**,**LOW**);**     9. digitalWrite**(**LEDgreen**,**HIGH**);**     10. delay**(**1000**);**     11. digitalWrite**(**LEDgreen**,**LOW**);** 16. **}** 17. **}** |

**Task 2** One LED and a POT are connected to Arduino, define a function named getVoltage to calculate the real time voltage of the POT, if the value is larger than 2.5V, then turn on the LED.

任务2 一个LED和一个电位器与Arduino Uno相连，定义一个函数名为getVoltage，用于计算POT段子的实时电压，若电压大于2.5V，则点亮LED。

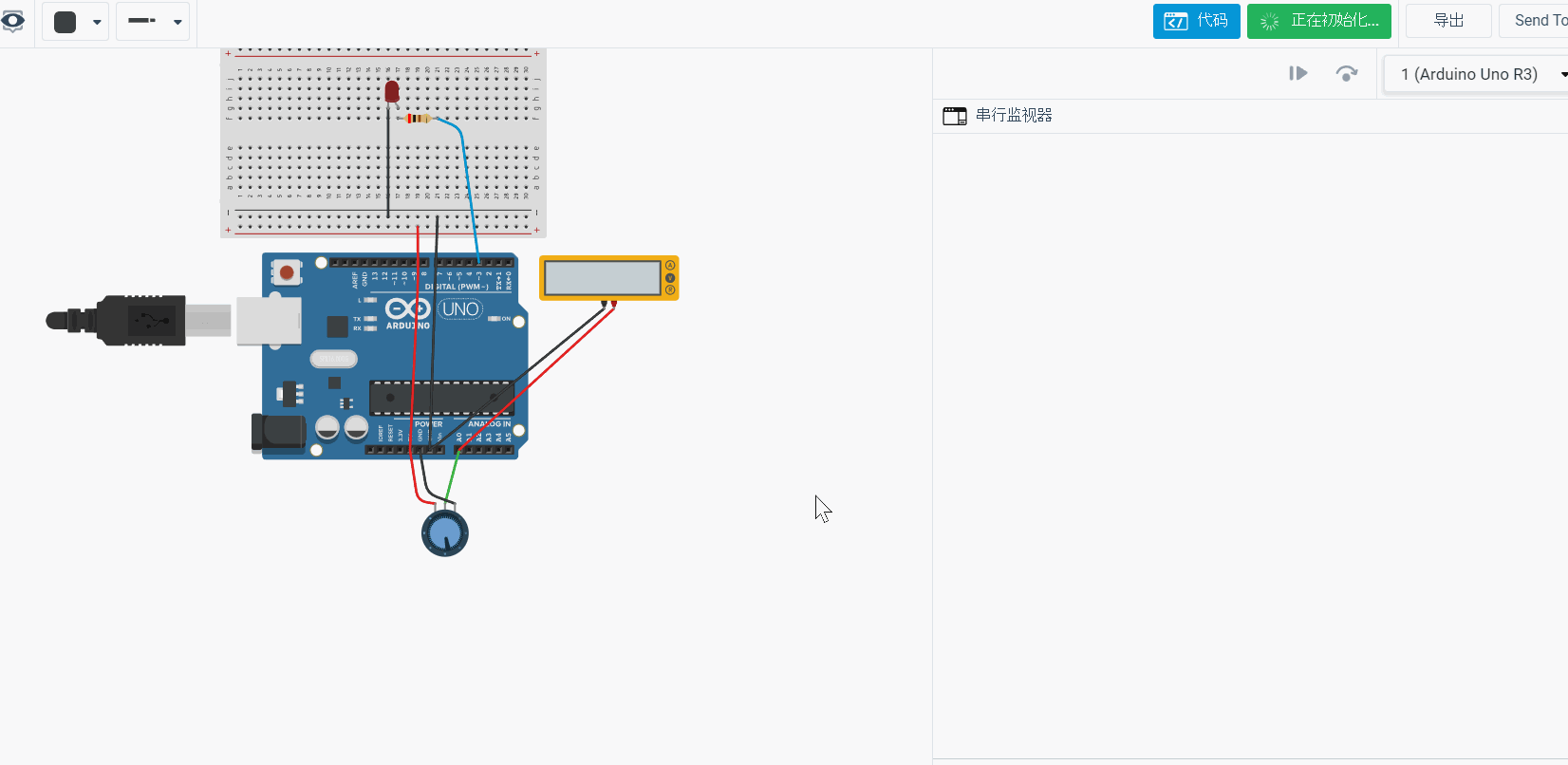


Fig 2 LED Indicator

|  |
| --- |
| 1. int ledPin **=** 3**;** 2. float val **=** 0**;** 3. void setup**()** 4. **{** 5. Serial**.**begin**(**9600**);** 6. **}** 7. void loop**()** 8. **{** 9. int sensorValue **=** analogRead**(**0**);** 10. float val**=** sensorValue **\*** **(**5.0 **/** 1023.0**);** 11. Serial**.**println**(**val**);** 12. delay**(**100**);** 13. **if(**val**>**2.5**){** 14. digitalWrite**(**3**,**HIGH**);** 15. **}else{** 16. digitalWrite**(**3**,**LOW**);** 17. **}** 18. **}** |