Lab 6- Stoplight

led_stoplight.py code

```
1. import RPi.GPIO as GPIO
2. import time
3. GPIO.setmode(GPIO.BCM)
4. GPIO.setwarnings(False)
5. GPIO.setup(16,GPIO.OUT)
6. print ("LED on")
7. GPIO.output(16,GPIO.HIGH)
8. time.sleep(4)
9. print("LED off")
10. GPIO.output(16,GPIO.low)
11. import RPi.GPIO as GPIO
12. import time
13. GPIO.setmode(GPIO.BCM)
14. GPIO.setwarning(False)
15. GPIO.setup(21, GPIO.OUT)
16. print ("LED on")
17. GPIO.output(21,GPIO.HIGH)
18. time.sleep(1)
19. print ("LED off")
20. GPIO.output(21,GPIO.HIGH)
21. import RPi.GPIO as GPIO
22. import time
23. GPIO.setmode(GPIO.BCM)
24. GPIO.setwarning(False)
25. GPIO.setup(20, GPIO.OUT)GPIO.setwarning(False)
26. GPIO.setup(21, GPIO.OUT)
27. print ("LED on")
28. GPIO.output(21,GPIO.HIGH)
29. time.sleep(1)
30. print ("LED off)
31. GPIO.output(21,GPIO.HIGH)
```

```
print ("LED on")
GPIO.output(20,GPIO.HIGH)
time.sleep(5)
print ("LED off")
GPIO.output(20,GPIO.LOW)
```

button_stoplight.py code

```
import RPi.GPIO as GPIO
import time
#setup
GPIO.setmode(GPIO.BCM)
GPIO.setwarning(False)
#Sets pin 16 as an output
GPIO.setup(16,GPIO.OUT)
def red():
print ("LED on")
GPIO.output(16,GPIO.HIGH) #turns 16 on
time.sleep(4)
print ("LED off")
GPIO.output(16,GPIO.LOW) #turns 16 off
#Setting up 21 as an output
GPIO.setup(21,GPIO.OUT)
def yellow():
print ("LED on")
GPIO.output(21,GPIO.HIGH)
time.sleep(1)
print ("LED off")
GPIO.output(21,GPIO.LOW)
def green():
GPIO.setup(20,GPIO.OUT)
print ("LED on")
GPIO.output(20,GPIO.HIGH)
time.sleep(5)
print ("LED off")
GPIO.output(20,GPIO.low)
GPIO.setup(25, GPIO.IN)
```

```
while True:
if GPIO.input(25) == 0:
print ("button pressed")
red()
yellow()
green()
time.sleep(0.25)
```

photocell.py code

```
1.
    1. import RPi.GPIO as GPIO
2. import time
3. #setup
4. GPIO.setmode(GPIO.BCM)
5. GPIO.setwarning(False)
6. #Sets pin 16 as an output
7. GPIO.setup(16,GPIO.OUT)
8. def red():
9. print ("LED on")
10. GPIO.output(16,GPIO.HIGH) #turns 16 on
11. time.sleep(4)
12. print ("LED off")
13. GPIO.output(16,GPIO.LOW) #turns 16 off
14. #Setting up 21 as an output
15. GPIO.setup(21,GPIO.OUT)
16. def yellow():
17. print ("LED on")
18. GPIO.output(21,GPIO.HIGH)
19. time.sleep(1)
20. print ("LED off")
21. GPIO.output(21,GPIO.LOW)
22. def green():
23. GPIO.setup(20,GPIO.OUT)
24. print ("LED on")
25. GPIO.output(20,GPIO.HIGH)
26. time.sleep(5)
```

```
27. print ("LED off")
28. GPIO.output(20,GPIO.low)
29. GPIO.setup(25, GPIO.IN)
30. while True:
31. if GPIO.input(25) == 0:
32. print ("Touched")
33. red()
34. yellow()
35. green()
36. time.sleep(0.25)
```