

**AIM: 8 leds blink 11110000 -- 00001111 with interval of 8 sec.**

**Code:**

```
# import raspberry pi GPIO module
import RPi.GPIO as GPIO
import time

leds = [22,24,26,28,32,36,38,40]
GPIO.setup(leds, GPIO.OUT)

while True:
    GPIO.output(leds[:4], GPIO.HIGH)
    GPIO.output(leds[4:],GPIO.LOW)
    time.sleep(8)
    GPIO.output(leds[:4], GPIO.LOW)
    GPIO.output(leds[4:],GPIO.HIGH)
    time.sleep(8)
```

**Output:**



**RPi GPIO connectors:**

2 5v Power	4 5v Power	6 Ground	8 BCM 14	10 BCM 15	12 BCM 18	14 Ground	16 BCM 23	18 BCM 24	20 Ground	22 BCM 25	24 BCM 8	26 BCM 7	28 BCM 1	30 Ground	32 BCM 12	34 Ground	36 BCM 16	38 BCM 20	40 BCM 21
1 3v3 Power	3 BCM 2	5 BCM 3	7 BCM 4	9 Ground	11 BCM 17	13 BCM 27	15 BCM 22	17 3v3 Power	19 BCM 10	21 BCM 9	23 BCM 11	25 Ground	27 BCM 0	29 BCM 5	31 BCM 6	33 BCM 13	35 BCM 19	37 BCM 26	39 Ground

**Conclusion:**

Here, we have selected eight LEDs for this experiment. The pattern of led on/off is as shown in the output picture as 11110000 and after that 00001111.

## Python Study jam

**7) WPP to enter 2 angles and using function thirdangle( angle1, angle2 ) calculate third angle.**

**Code:**

```
def thirdangle(a1,a2):  
    return 180.0 - a1 - a2  
  
angle1 = float(input("Enter First Angle: "))  
angle2 = float(input("Enter Second Angle: "))  
print(f"Third Angle: {thirdangle(angle1,angle2)}")
```

**Output:**

```
Enter First Angle: 60  
Enter Second Angle: 45.3  
Third Angle: 74.7
```

**16) Write a Python program to concatenate all elements in a list into a string and return it using function.**

**Code:**

```
def list_to_string(ls):  
    temp = ""  
    for ele in ls:  
        temp += str(ele)  
    return temp  
  
ls = [10, 20, 30, 40]  
temp = list_to_string(ls)  
print(f"List has {temp} and the type of it is {type(temp)}.")
```

**Output:**

```
List has 10203040 and the type of it is <class 'str'>.
```