RaspberryPi - CheatSheet

Raspberry Pi GPIO BCM numbering

5V	**UART**	**I2C0**	**SPI1**

Top row: 14 TXD, 15 RXD, 18 PWM0, 23, 24, 25, 8 CE0, 7 CE1, 1 ID_SC, 12 PWM0, 16, 20 MOSI, 21 SCLK

Pin numbers: 2 ... 40

Pin numbers: 1 ... 39

Bottom row: SDA 2, SCL 3, GCLK0 4, 17, 27, 22, MOSI 10, MISO 9, SCLK 11, ID_SD 0, GCLK1 5, GCLK2 6, PWM1 13, MISO 19, 26

Bottom labels: **3V3** **I2C1** **3V3** **SPI0**
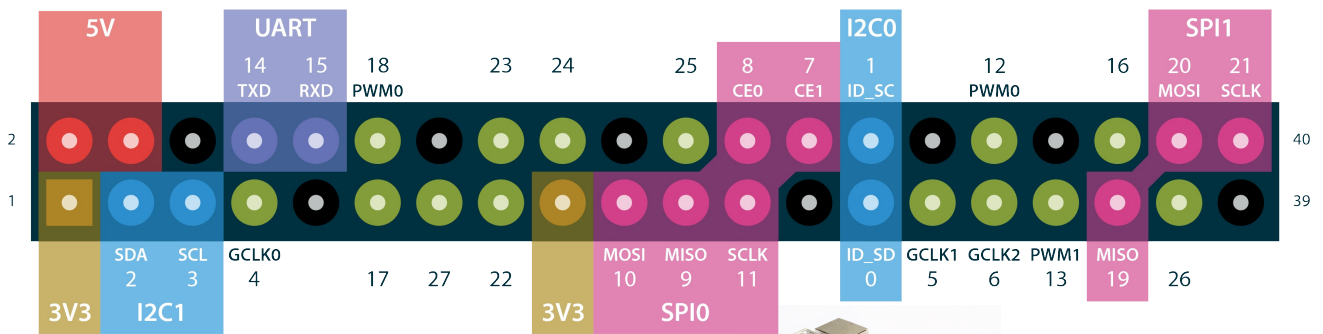
BCM: Pin-Nummern am Chip
BOARD: Pin-Nummern auf dem Board.

Informationen zu Pins
http://pinout.xyz

Blinkende LED

```python
#blink.py

# Bibliotheken importieren
import RPi.GPIO as GPIO
import time

LED = 7      # Pin 7 (BCM 4)

GPIO.setmode(GPIO.BOARD)     # Board-Nummerierung
GPIO.setup(LED, GPIO.OUT)    # LED-Pin als Ausgang

try:
    while True:
        GPIO.output(LED, True) # LED an
        print("blink")
        time.sleep(0.5)
        GPIO.output(LED, False) # LED aus
        time.sleep(1)
except KeyboardInterrupt:
    GPIO.cleanup()
```
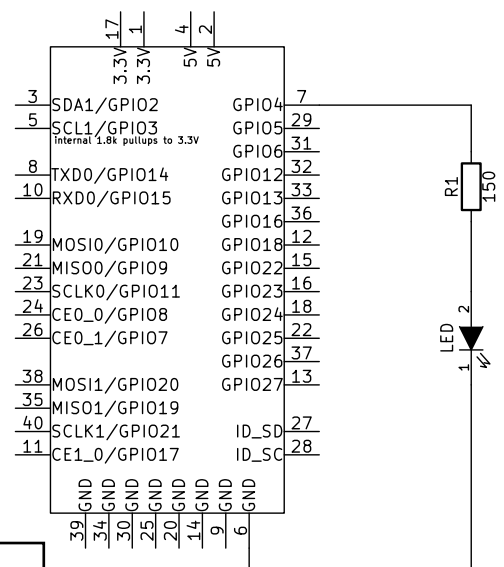
Raspberry_Pi_3

SDA1/GPIO2, SCL1/GPIO3, Internal 1.8k pullups to 3.3V
TXD0/GPIO14, RXD0/GPIO15
MOSI0/GPIO10, MISO00/GPIO9, SCLK0/GPIO11, CE0_0/GPIO8, CE0_1/GPIO7
MOSI1/GPIO20, MISO01/GPIO19, SCLK1/GPIO21, CE1_0/GPIO17
GPIO4, GPIO5, GPIO6, GPIO12, GPIO13, GPIO16, GPIO18, GPIO22, GPIO23, GPIO24, GPIO25, GPIO26, GPIO27
ID_SD, ID_SC

R1 150, LED

```
Programm starten
$ python3 blink.py
```

Taster auslesen

```python
#taster.py

# Bibliotheken importieren
import RPi.GPIO as GPIO
import time

TASTER = 23      # Pin 16 (BCM 23)

GPIO.setmode(GPIO.BCM)        # BCM-Nummerierung
GPIO.setup(TASTER, GPIO.IN)   # Taster-Pin als Eingang

try:
    while True:
        invalue = GPIO.input(TASTER) # Taster auslesen
        print("Tasterwert", invalue)
        time.sleep(0.5)
except KeyboardInterrupt:
    GPIO.cleanup()
```

Raspberry_Pi_3

optionaler Widerstand zur Sicherheit R1 1k
S1
pulldown Widerstand R2 10k

```
Programm starten
$ python3 taster.py
```