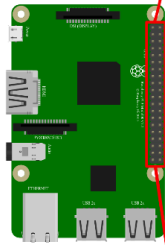


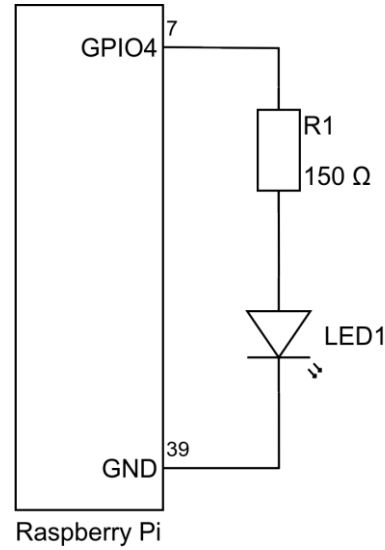
Pinout



| | | | |
|--------------------|----|----|--------------------|
| 3.3V PWR | 1 | 2 | 5V PWR |
| GPIO2 (SDA1, I2C) | 3 | 4 | 5V PWR |
| GPIO3 (SCL1, I2C) | 5 | 6 | GND |
| GPIO4 (GPIO_GCLK) | 7 | 8 | (UART_TXD0) GPIO14 |
| GND | 9 | 10 | (UART_RXD0) GPIO15 |
| GPIO17 (GPIO_GEN0) | 11 | 12 | (GPIO_GEN1) GPIO18 |
| GPIO27 (GPIO_GEN2) | 13 | 14 | GND |
| GPIO22 (GPIO_GEN3) | 15 | 16 | (GPIO_GEN4) GPIO23 |
| 3.3V PWR | 17 | 18 | (GPIO_GEN5) GPIO24 |
| GPIO10 (SPI0_MOSI) | 19 | 20 | GND |
| GPIO9 (SPI0_MISO) | 21 | 22 | (GPIO_GEN6) GPIO25 |
| GPIO11 (SPI0_CLK) | 23 | 24 | (SPI_CE0_N) GPIO8 |
| GND | 25 | 26 | (SPI_CE1_N) GPIO7 |
| ID_SD (I2C EEPROM) | 27 | 28 | ID_SC (I2C EEPROM) |
| GPIO5 | 29 | 30 | GND |
| GPIO6 | 31 | 32 | GPIO12 |
| GPIO13 | 33 | 34 | GND |
| GPIO19 | 35 | 36 | GPIO16 |
| GPIO26 | 37 | 38 | GPIO20 |
| GND | 39 | 40 | GPIO21 |

Informationen zu den Pins:
<https://pinout.xyz>

LED-Schaltung



Blinkende LED

```
#blink.py

# Bibliotheken importieren
from gpiozero import LED
import time

# Objekt der Klasse LED
led = LED(4) # GPIO4 (Pin 7)

while True:
    led.on() # LED an
    print("blink")
    time.sleep(0.5)
    led.off() # LED aus
    time.sleep(1)
```

Programm starten
 \$ python3 dateiname.py

Raspberry Pi CheatSheet

Breadboard

weitere Links
https://it.tbs1.de/itawiki/index.php/Raspberry_Pi
 Ansteuerungen grundlegender Hardwarebausteine:
<https://hw101.tbs1.de>
 Einfache Softwarelösungen für verschiedene Probleme:
<https://sw101.tbs1.de>

Taster betätigt?

```
from gpiozero import Button
import time

button = Button(23, pull_up=None, active_state=True)

while True:
    if button.is_pressed:
        print("Der Taster ist betätigt.")
    else:
        print("Der Taster ist nicht betätigt")
        time.sleep(0.5)
```

weitere gpiozero-Rezepte
<https://gpiozero.readthedocs.io/en/stable/recipes.html>

Taster-Schaltung