

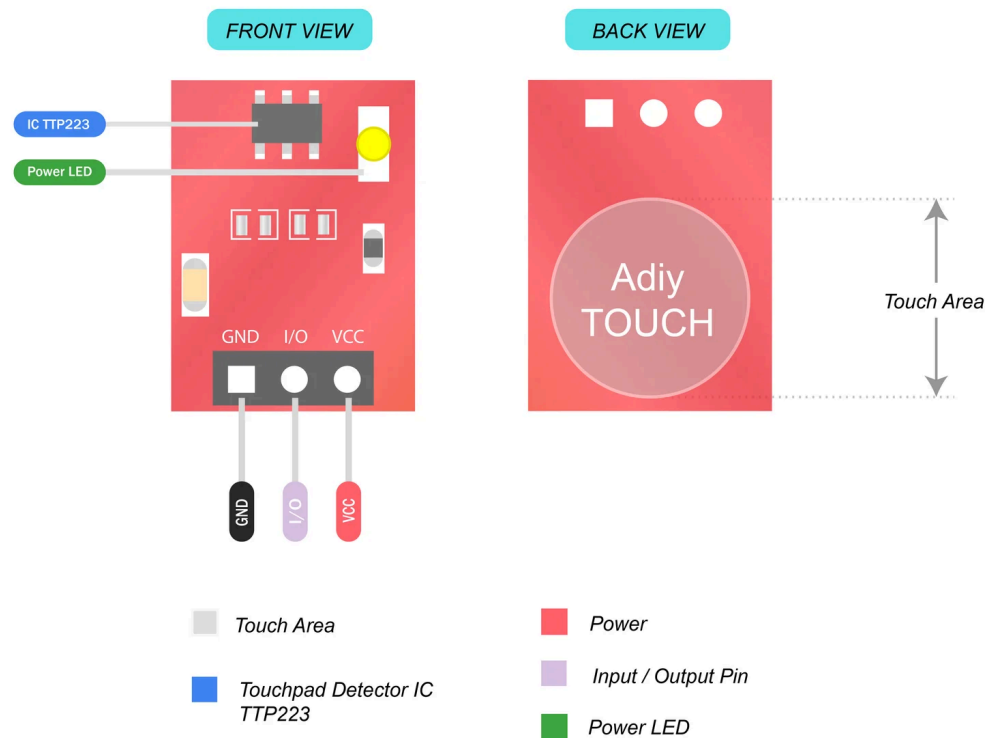
Exercise no 3: Raspberry PI GPIOs

Introduction.

1. Network credentials: `Laboratorium-IoT /`
2. Github repository - github.com/tocet/prog_devices
3. Raspberry Pi pinout - pinout.xyz/pinout/pin16_gpio23/

Task 1. Basic application.

Connect 2 TTP223 to the Raspberry Pi board.



Button 1	RPi board
Vcc	3.3V
I/O	# 17
GND	GND

Button 2	RPi board
Vcc	3.3V
I/O	# 27
GND	GND

The code:

```
from tkinter import *
from gpiozero import Button

BTN_CLOSEAPP = 27

wnd = Tk()
wnd.title("Button test")
wnd.geometry("400x200+200+200")

def tb_pressed():
    print("Button pressed")
    label_button.config(text="Button was pressed")

touch_button = Button(17, pull_up=False)
touch_button.when_pressed = tb_pressed
touch_button.when_released = lambda: print("Button released")

close_button = Button(BTN_CLOSEAPP, pull_up=False)
close_button.when_pressed = lambda: wnd.destroy()

label_button = Label(wnd, text="Wait for button")
label_button.pack()

wnd.mainloop()
```

Task 2. Improve Your snake game.

Improve Your game from ex. 2:

- add touch buttons to control the head position;
- add a new game button.

Attention: All functionalities defined in exercise no 2 must work correctly.
Presenting this solution is worth +1 to the final course score.

For those interested:

1. Raspberry Pi: Read Digital Inputs with Python tutorial:
randomnerdtutorials.com/raspberry-pi-digital-inputs-python/
2. GPIO Zero documentation:
gpiozero.readthedocs.io/en/stable/installing.html