

# Capteurs ultrasonore

## Mesure de distance

```
def distance:
    from __future__ import print_function
    import time
    import RPi.GPIO as GPIO
    def measure():
        GPIO.output(GPIO_TRIGGER, True)
        time.sleep(0.00001)
        GPIO.output(GPIO_TRIGGER, False)
        start = time.time()
        while GPIO.input(GPIO_ECHO)==0:
            start = time.time()
        while GPIO.input(GPIO_ECHO)==1:
            stop = time.time()
        elapsed = stop-start
        distance = (elapsed * speedSound)/2
        return distance
    def measure_average():
        distance1=measure()
        time.sleep(0.1)
        distance2=measure()
        time.sleep(0.1)
        distance3=measure()
        distance = (distance1 + distance2 + distance3)/3
        return distance
    GPIO.setmode(GPIO.BCM)
    GPIO_TRIGGER = 23
    GPIO_ECHO     = 24
    temperature = 20
    speedSound = 33100 + (0.6*temperature)
    print("Ultrasonic Measurement")
    print("Speed of sound is",speedSound/100,"m/s at ",temperature,"deg")
    GPIO.setup(GPIO_TRIGGER,GPIO.OUT) # Trigger
    GPIO.setup(GPIO_ECHO,GPIO.IN)     # Echo
    GPIO.output(GPIO_TRIGGER, False)
    time.sleep(0.5)
    try:
        while True:
            distance = measure_average()
            print("Distance : {0:5.1f}".format(distance))
            time.sleep(1)
    except KeyboardInterrupt:
        GPIO.cleanup()
```

## Test arrêt d'urgence

## Documentation

<https://www.domo-blog.fr/capteur-de-distance-sur-raspberry/>

## Retour

- [Projet Mariokart](#)

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