PYTHON FILE -AUTONOMOUS VEHICLES AND ROBOTICS

```
# GPIO Mode (BOARD / BCM)
GPIO.setmode(GPIO.BCM)

# Pin Definitions
TRIG = 23
ECHO = 24
IR_LEFT = 17
IR_RIGHT = 27
MOTOR_LEFT_FORWARD = 5
MOTOR_LEFT_BACKWARD = 6
MOTOR_RIGHT_FORWARD = 13
MOTOR_RIGHT_BACKWARD = 19

# Setup
GPIO.setup(TRIG, GPIO.OUT)
GPIO.setup(ECHO, GPIO.IN)
GPIO.setup(IR_LEFT, GPIO.IN)
GPIO.setup(IR_RIGHT, GPIO.IN)

GPIO.setup(MOTOR_LEFT_FORWARD, GPIO.OUT)
GPIO.setup(MOTOR_LEFT_BACKWARD, GPIO.OUT)
GPIO.setup(MOTOR_RIGHT_FORWARD, GPIO.OUT)
GPIO.setup(MOTOR_RIGHT_BACKWARD, GPIO.OUT)

# Motor control functions
def stop():
```

```
    GPIO.output(MOTOR_LEFT_FORWARD, False)
    GPIO.output(MOTOR_LEFT_BACKWARD, False)
    GPIO.output(MOTOR_RIGHT_FORWARD, False)
    GPIO.output(MOTOR_RIGHT_BACKWARD, False)

def forward():
    GPIO.output(MOTOR_LEFT_FORWARD, True)
    GPIO.output(MOTOR_LEFT_BACKWARD, False)
    GPIO.output(MOTOR_RIGHT_FORWARD, True)
    GPIO.output(MOTOR_RIGHT_BACKWARD, False)

def turn_left():
    GPIO.output(MOTOR_LEFT_FORWARD, False)
    GPIO.output(MOTOR_LEFT_BACKWARD, True)
    GPIO.output(MOTOR_RIGHT_FORWARD, True)
    GPIO.output(MOTOR_RIGHT_BACKWARD, False)

def turn_right():
    GPIO.output(MOTOR_LEFT_FORWARD,
```