## Description

This is a Flame detector project built on Raspberry Pi that detects flame and produces an alarm sound as a flame is detected. This uses the MH-Sensor series. This is assuming you have a working interface for your raspberry pi. This specific tutorial mounts the Raspberry Pi GPIO extension and uses Thonny IDE to run the code.

GitHub Link: <https://github.com/abhand3/IOT-projects-Anjita-Bhandari/tree/main/Flame%20Detector>

## Materials Needed

### Hardware

1. 1 Raspberry Pi
2. 1 Breadboard
3. 1 MH-Sensor series
4. 1 buzzer
5. 2 male-to- male cables(any color will work)
6. 3 Female-to-Male cables (any color)

*Note: the color of the cables do not matter*

Connection Setup

1. Mount the extension in the breadboard
2. Connect the flame Sensor to the breadboard with the Raspberry Pi using the 3 Female-to-Male cables to match the diagram below.   
   A picture containing text, clock

   Description automatically generated

Diagram

Description automatically generated

|  |  |  |
| --- | --- | --- |
| Cable Connections | | |
| Cable Color | MH-Sensor series Connection | extension Connection |
| white | VCC (Power) | 3.3v |
| Yellow | GND | GND |
| Red | DO | GPIO21 |

*If you need extra assistance, you can refer to the Raspberry Pi connection output diagram*

For implementing Buzzer:

* We need 2 male-to- male cables(any color will work)

|  |  |  |
| --- | --- | --- |
| Cable Connections | | |
| Cable Color | Buzzer Connection | extension Connection |
| Blue | Positive | GPIO16 |
| Green | Negative | GND |

## Software Instructions

1. Open Thonny IDE and change to Python 3.7.3
2. Click Plus sign and copy paste the code (from flameDetector.py) and save it or

Download the file from GitHub and save it.

Reference:

<http://www.piddlerintheroot.com/flame-sensor/>