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1) Conduct an experiment to start the buzzer when there is rain heavily only.

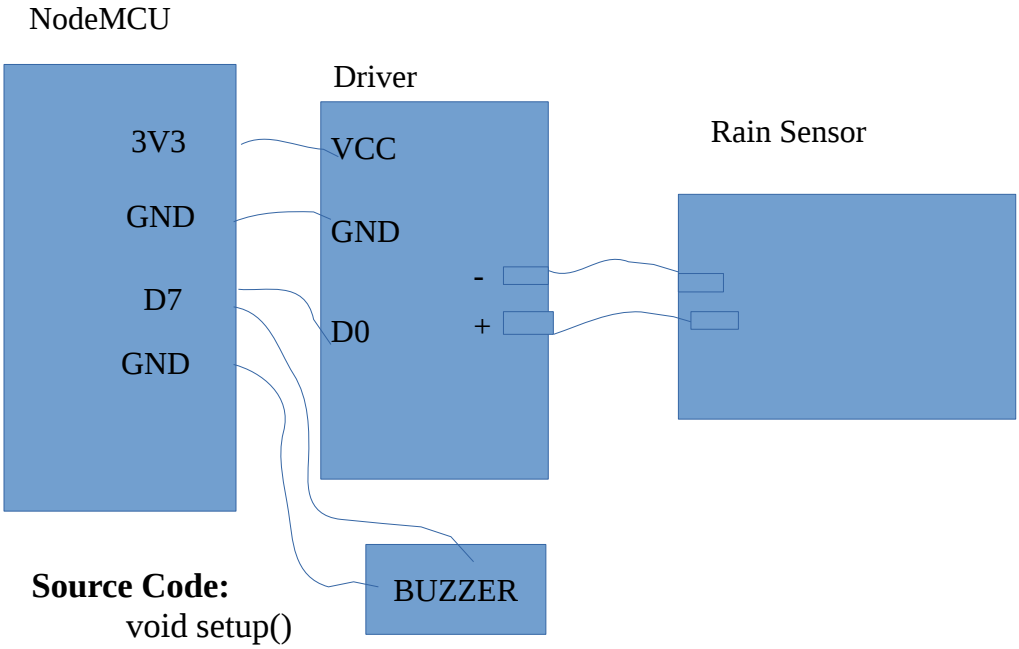
Aim: To start the buzzer once the rain sensor detects heavy rain.

Description: Raindrop sensor is basically a board on which nickel is coated in the form of lines. It works on the principal of resistance. When there is no rain drop on board, resistance is high so we gets high voltage. When rain drops are present it reduces the resistance because water is conductor of electricity and presence of water connects nickel lines in parallel so reduced resistance and reduced voltage drop across it. Once the rain sensor detects heavy rain, the buzzer rings and once the rain drops are wiped off, the buzzer stops. In addition, the serial monitor will show whether it is heavily raining or not with a baud ratre of 9600. In this expermiment, LED light is not required as we intend to use a buzzer while it rains heavily.

Hardware Requirements: Node MCU, USB Cable, Jumper Wires, Rain Sensor, Buzzer

Software Requirements: Arduino IDE

Circuit Diagram:



Source Code:

```
void setup()
{
pinMode(4, INPUT);
pinMode(13, OUTPUT);
```

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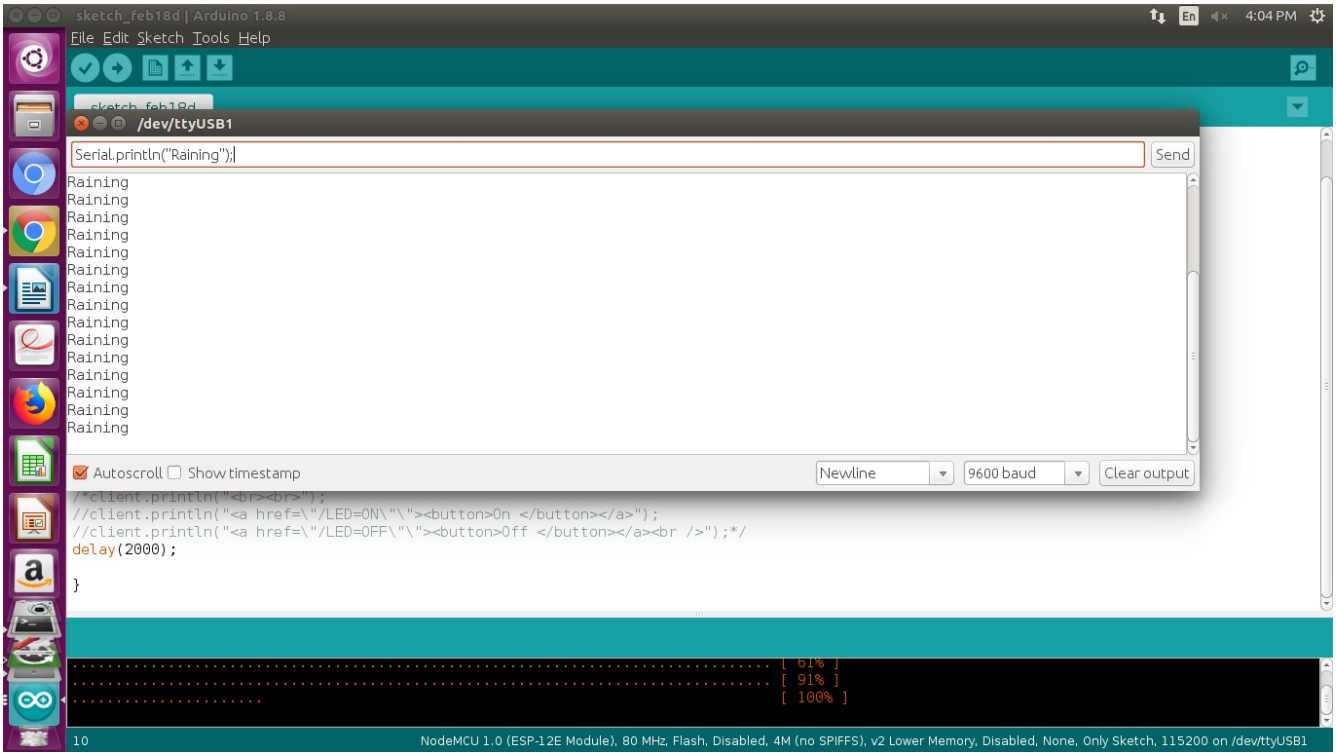
```
Serial.begin(9600);
}

void loop()
{
if(digitalRead(4))
        {
                digitalWrite(13, LOW);
                Serial.println(“Rain”);
        }
else {
        digitalWrite(13,HIGH);
        Serial.println(“No Rain);
        }
}
```

OUTPUT:



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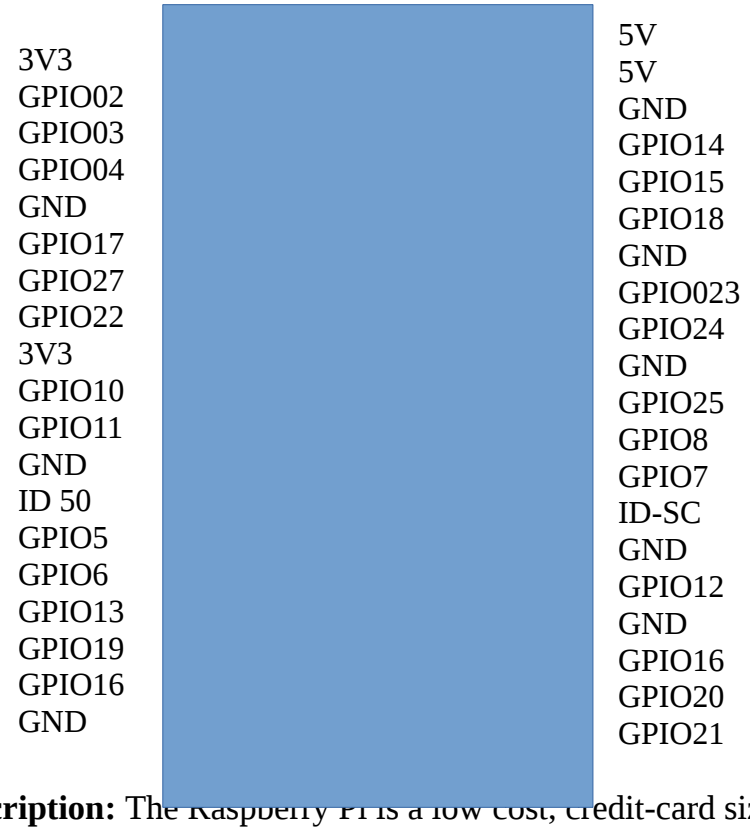
2) Raspberry pi - Pin Diagram, Description.

Pin Diagram:



Description: The Raspberry PI is a low cost, credit-card sized computer that plugs into a computer monitor or TV, and uses a standard keyboard and mouse. It is a capable little device that enables people of all ages to explore computing, and to learn how to program in languages like Scratch and Python. It is an actual computer and it is powerful as a battleship. Its price is higher than nodeMCU. It has high processing capability.