

## EXP - 1:

```
void setup() {
  Serial.begin(9600);
}
void loop() {
  int r = analogRead(A0);
  double c = (r / 1023.0 * 5000 - 500) * 0.1;
  Serial.print("C: "); Serial.print(c, 1);
  Serial.print(" F: "); Serial.println(c * 1.8 + 32, 1);
  delay(2000);
}
```

## EXP - 2:

```
void setup() {
  Serial.begin(9600);
}
void loop() {
  float s;
  s = analogRead(A0);
  if(s >= 300 && s < 470){
    Serial.print(s);
    Serial.println(" |ETHANOL DETECTED");
  }
  if(s >= 200 && s < 300){
    Serial.print(s);
    Serial.println(" |CO2 DETECTED");
  }
  delay(1000);
}
```

## EXP - 3:

```
int p=7, o=LOW;
void setup() {
  pinMode(p, INPUT);
  Serial.begin(9600);
}
void loop() {
  o = digitalRead(p);
  if (o == HIGH) {
    Serial.println("Obstacle Present");
  } else {
    Serial.println("No Obstacle");
  }
  delay(1000);
}
```

## EXP - 4:

```
int tPin = 5; int ePin = 4;
void setup() {
  Serial.begin(9600);
  pinMode(tPin, OUTPUT);
  pinMode(ePin, INPUT);
}
void loop() {
  digitalWrite(tPin, LOW);
  delayMicroseconds(2);
  digitalWrite(tPin, HIGH);
  delayMicroseconds(10);
  digitalWrite(tPin, LOW);
  float d = pulseIn(ePin, HIGH) * 0.034 / 2;
  static unsigned long lastTime = 0;
  if (millis() - lastTime >= 300) {
    Serial.print(d / 0.3 * 0.036);
    Serial.println(" km/h");
    lastTime = millis();
  }
}
```

## EXP - 5:

```
const int ledPin = 13;
void setup() {
  pinMode(ledPin, OUTPUT);
  Serial.begin(9600);
}
void loop() {
  if (Serial.available()) {
    String c = Serial.readString();
    if (c == "s") { //Use command as your wish
      digitalWrite(ledPin, HIGH);
    }
    else if (c == "e") {
      digitalWrite(ledPin, LOW);
    }
  }
}
```

## EXP - 6:

```
<!DOCTYPE html>
<html lang="en">
<head>
  <script src="https://cdn.pubnub.com/sdk/javascript/pubnub.4.29.9.js"></script>
</head>
<body>
  <h1>Student Data Dashboard Using Pubnub</h1>
  <form id="studentForm">
    <input type="text" id="name" placeholder="Name" required><input type="number" id="age"
placeholder="Age" required>
    <input type="text" id="grade" placeholder="Grade" required>
    <button type="submit">Submit</button>
  </form>
  <table>
    <thead><tr><th>Name</th><th>Age</th><th>Grade</th></tr></thead>
    <tbody id="studentData"></tbody>
  </table>
  <script>
    const pubnub = new PubNub({publishKey: 'YOUR_KEY',subscribeKey: 'YOUR_KEY'});
    document.getElementById('studentForm').onsubmit = event => {
      event.preventDefault();
      const student = {
        name: document.getElementById('name').value,
        age: document.getElementById('age').value,
        grade: document.getElementById('grade').value
      };
      pubnub.publish({ channel: 'student_channel', message: student });
      document.getElementById('studentForm').reset();
    };
    pubnub.subscribe({ channels: ['student_channel'] });
    pubnub.addListener({
      message: ({ message: student }) => {
        document.getElementById('studentData').innerHTML +=
`<tr><td>${student.name}</td><td>${student.age}</td><td>${student.grade}</td></tr>`;
      });
  </script></body></html>
```