Practical 3: Write an application to read temperature from the environment.

```
const int sensor = A1;
float tempc;
float tempf;
float vout;

void setup() {
  pinMode(sensor, INPUT);
  pinMode(13, OUTPUT);
  Serial.begin(9600);
}

void loop() {
  vout = analogRead(sensor);
  vout = (vout * 500) / 1023;
  tempc = vout;
  tempf = (vout * 1.8) + 32;

  Serial.print("in DegreeC = ");
  Serial.print("\t");
  Serial.print(tempc);
  Serial.println();

  Serial.print("in Fahrenheit = ");
  Serial.print("\t");
  Serial.print(tempf);
  Serial.println();

  delay(2000);

  if (tempc >= 25) {
    digitalWrite(13, HIGH);
    delay(500);
  } else {
    digitalWrite(13, LOW);
    delay(500);
  }
}
```

Practical 4: Write program using Arduino to control LED (on/off, blinking).

```
int led = 8;

void setup() {
  pinMode(led, OUTPUT);
}

void loop() {
  digitalWrite(led, HIGH);
  delay(1000);
  digitalWrite(led, LOW);
```

```
  delay(1000);
}
```

Practical 5: Create a program so that when the user enters b the green light blinks, g the gre

```
#define LED_PIN_1 11
#define LED_PIN_2 10
#define LED_PIN_3 9

void setup() {
  pinMode(LED_PIN_1, OUTPUT);
  pinMode(LED_PIN_2, OUTPUT);
  pinMode(LED_PIN_3, OUTPUT);
}

void loop() {
  digitalWrite(LED_PIN_1, HIGH);
  digitalWrite(LED_PIN_2, HIGH);
  digitalWrite(LED_PIN_3, HIGH);
  delay(1000);

  digitalWrite(LED_PIN_1, LOW);
  digitalWrite(LED_PIN_2, LOW);
  digitalWrite(LED_PIN_3, LOW);
  delay(1000);
}
```

Practical 6: Write a program that asks the user for a number and outputs the square of that nu

```
int x;

void setup() {
  Serial.begin(9600);
  Serial.println("Enter A Number:-");

  while (Serial.available() == 0) {}

  x = Serial.parseInt();
  Serial.println("Square of the Number is:-");
  Serial.println(x * x);
}

void loop() {
}
```

Practical 7: Write a program to control the color of an LED by turning 3 different potentiomet

```
char val;

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

```
  pinMode(12, OUTPUT);
  Serial.begin(9600);
}

void loop() {
  if (Serial.available() > 0) {
    val = Serial.read();
    switch(val) {
      case 'a':
        digitalWrite(13, HIGH);
        break;
      case 'b':
        digitalWrite(13, LOW);
        break;
    }
  }
}
```