Code Explanation

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This Arduino program controls three LEDs connected to digital pins 8, 9, and 10.
Each LED turns ON one after another, stays ON for 0.5 seconds, and then turns OFF.

Variable Declaration

```
int led1 = 8;
int led2 = 9;
int led3 = 10;
```

- These variables store the pin numbers where the LEDs are connected.
- led1 → pin 8
- led2 → pin 9
- led3 → pin 10

setup() Function

```
void setup() {
  pinMode(led1, OUTPUT);
  pinMode(led2, OUTPUT);
  pinMode(led3, OUTPUT);
}
```

- The setup() function runs **only once** when the Arduino starts.
- pinMode(pin, OUTPUT) sets the LED pins as **output pins**.
- This allows the Arduino to control the LEDs.

loop() Function

```
void loop() {
```

- The loop() function runs **continuously** in a cycle.

LED 1 Control

```
digitalWrite(led1, HIGH);
delay(500);
digitalWrite(led1, LOW);
```

- Turns **LED 1 ON**.
- Keeps it ON for **500 milliseconds (0.5 seconds)**.
- Turns **LED 1 OFF**.

LED 2 Control

```
digitalWrite(led2, HIGH);
delay(500);
digitalWrite(led2, LOW);
```

- Turns **LED 2 ON**, waits for **0.5 seconds**, then turns it OFF.

LED 3 Control

```
digitalWrite(led3, HIGH);
delay(500);
digitalWrite(led3, LOW);
```

- Turns **LED 3 ON**, waits for **0.5 seconds**, then turns it OFF.

Working Principle

- LEDs glow **one by one in sequence**.
- After LED 3 turns OFF, the loop **restarts**, repeating the pattern.
- This creates a **running LED effect**.