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Sub: IoT

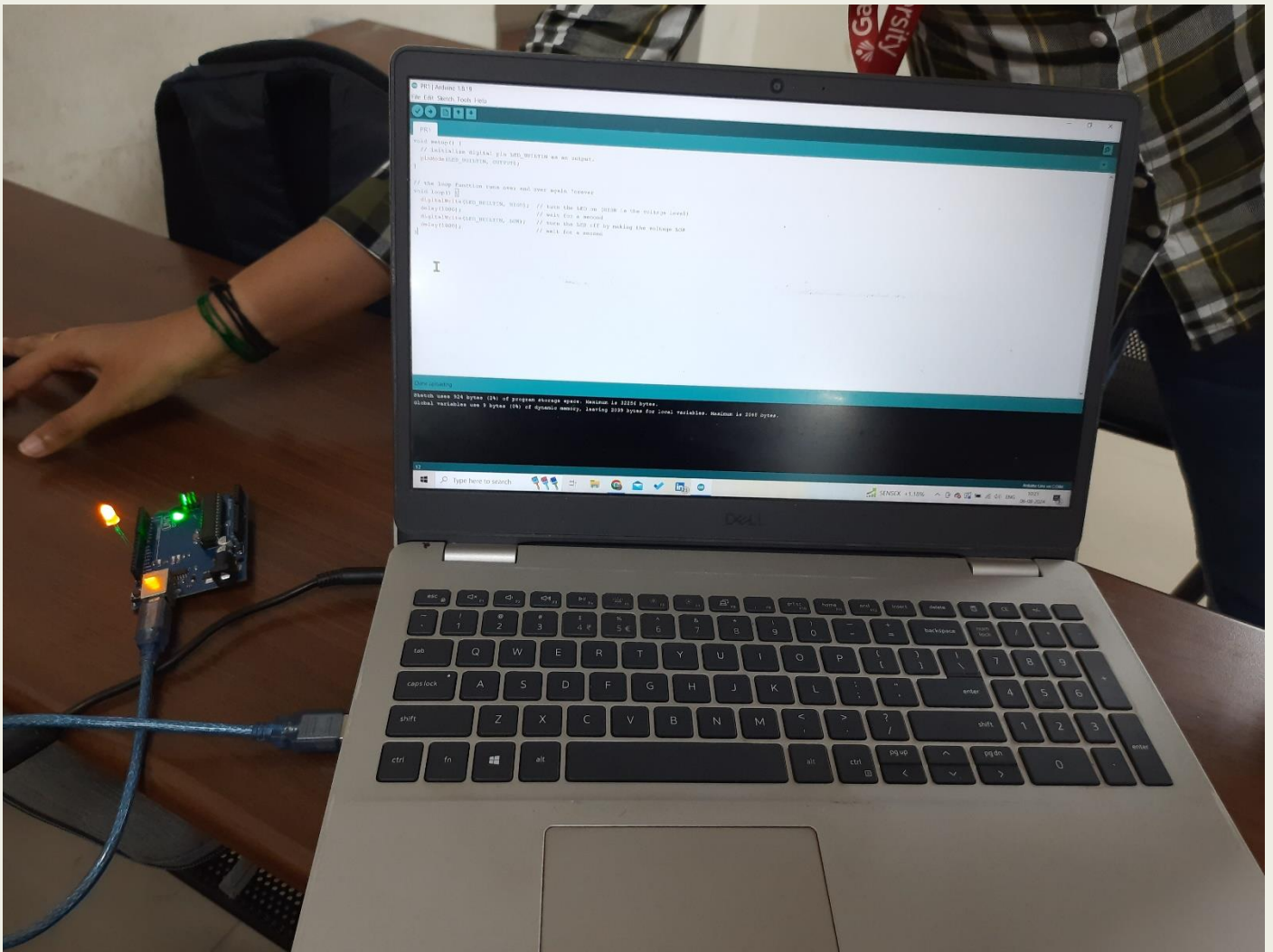
Practical – 1[Batch-71]

1. Interfacing of LED with Arduino and write a code for LED blinking.

Parts needed

- 1) Arduino uno**
- 2) USB E2B**
- 3) Yellow LED**

```
void setup() {  
  // initialize digital pin LED_BUILTIN as an output.  
  pinMode(LED_BUILTIN, OUTPUT);  
}  
  
// the loop function runs over and over again forever  
  
void loop() {  
  digitalWrite(LED_BUILTIN, HIGH); // turn the LED on (HIGH is the voltage level)  
  delay(2000); // wait for a second  
  digitalWrite(LED_BUILTIN, LOW); // turn the LED off by making the voltage LOW  
  delay(2000); // wait for a second  
}
```



Google Drive Link: https://drive.google.com/file/d/15FS9Hoj-Y7u3_SCvIUOGVb3FWU5EcGaH/view?usp=sharing

2. Interfacing 3 LED's with Arduino and write a code for traffic signals.

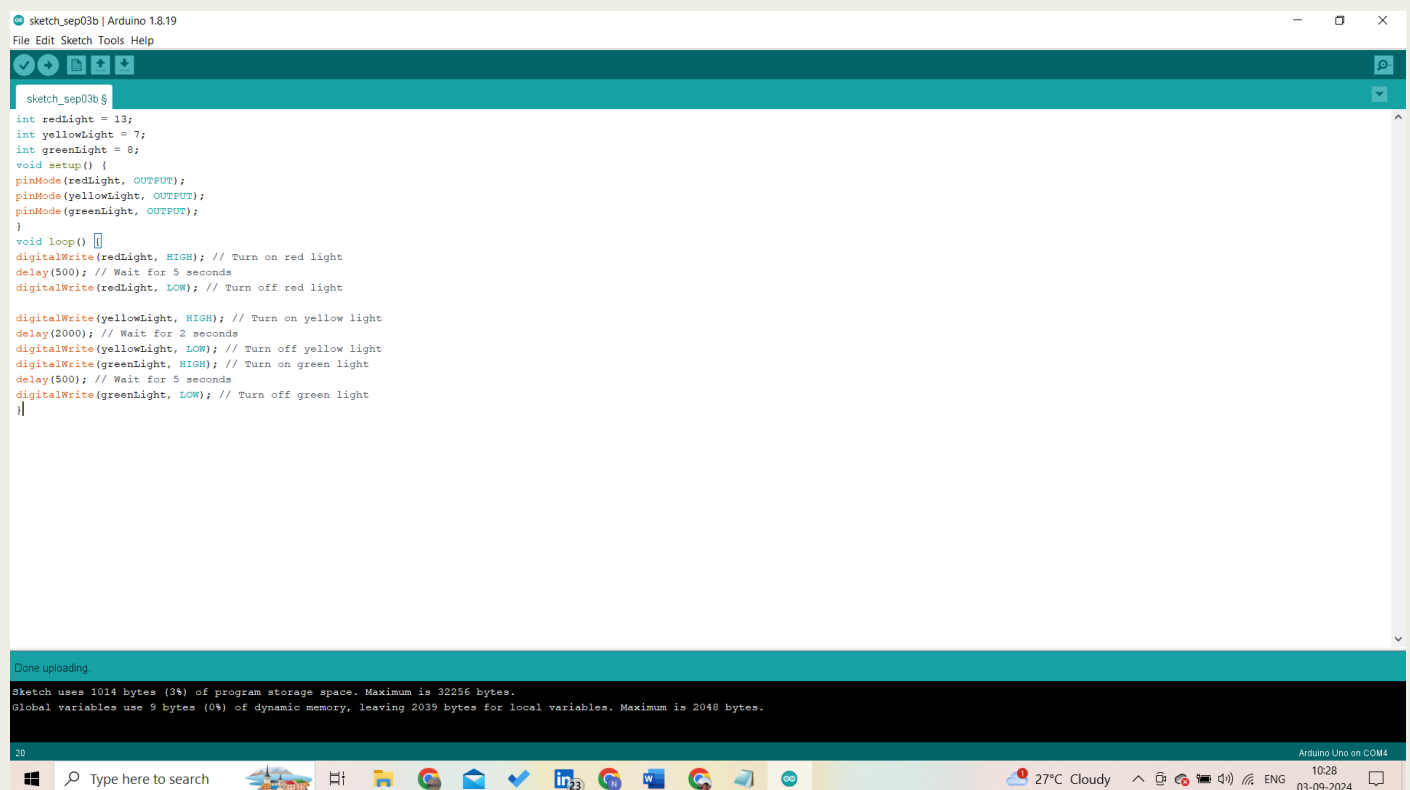
Parts needed

- 1) Arduino uno
- 2) USB E2B
- 3) 2-Yellow LED
- 4) 1-red LED
- 5) Jumper wires

Code:-

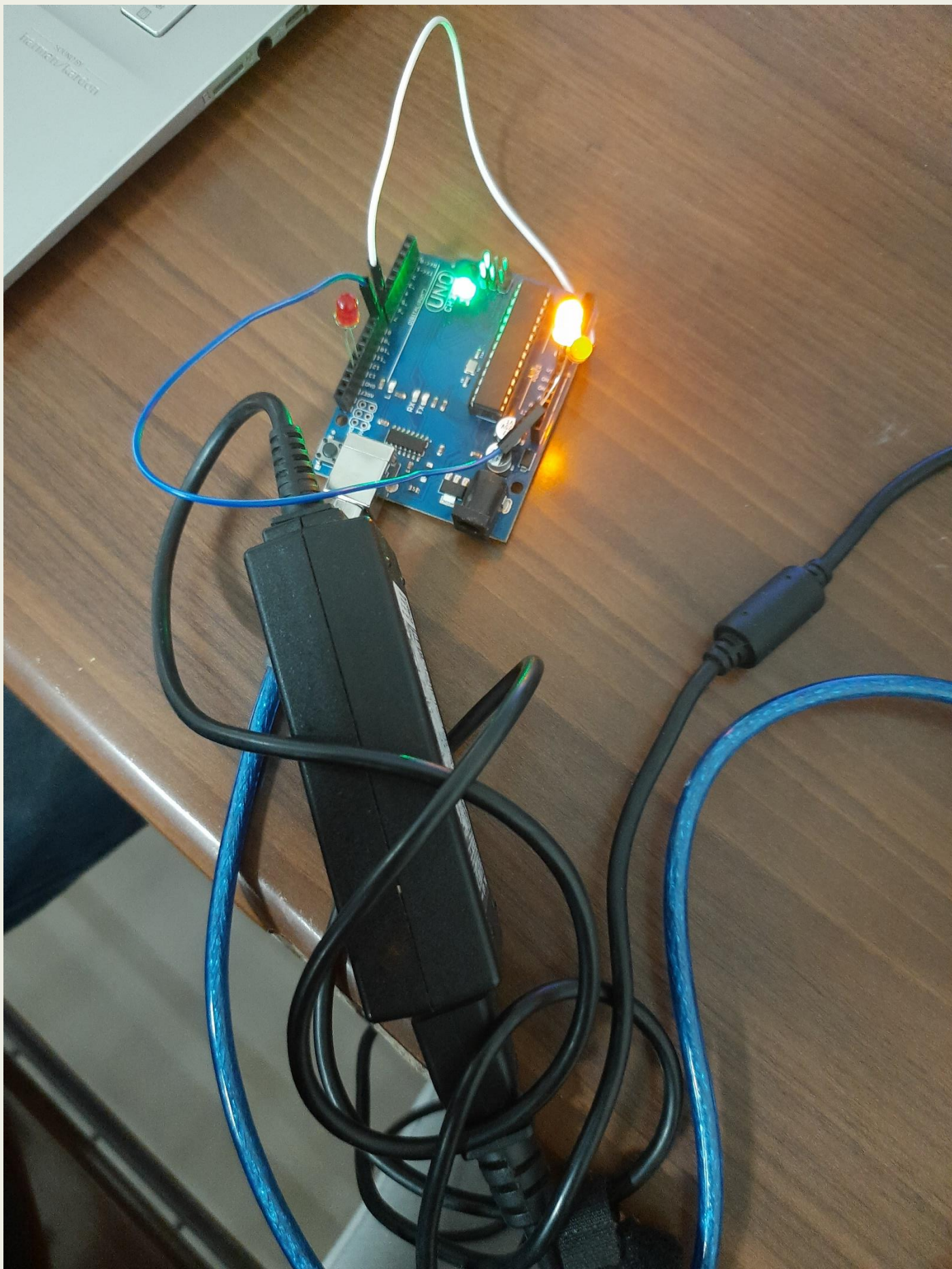
```
int redLight = 13;  
int yellowLight = 7;  
int greenLight = 8;
```

```
void setup() {  
  
  pinMode(redLight, OUTPUT);  
  
  pinMode(yellowLight, OUTPUT);  
  
  pinMode(greenLight, OUTPUT);  
  
}  
  
void loop() {  
  
  digitalWrite(redLight, HIGH); // Turn on red light  
  
  delay(500); // Wait for 5 seconds  
  
  digitalWrite(redLight, LOW); // Turn off red light  
  
  
  
  digitalWrite(yellowLight, HIGH); // Turn on yellow light  
  
  delay(2000); // Wait for 2 seconds  
  
  digitalWrite(yellowLight, LOW); // Turn off yellow light  
  
  digitalWrite(greenLight, HIGH); // Turn on green light  
  
  delay(500); // Wait for 5 seconds  
  
  digitalWrite(greenLight, LOW); // Turn off green light  
  
}
```



The screenshot shows the Arduino IDE interface. The top menu bar includes 'File', 'Edit', 'Sketch', 'Tools', and 'Help'. The toolbar contains icons for opening, saving, and running the sketch. The main text area displays the code from the previous block, with line numbers 1 through 20 on the left. The code is color-coded: keywords in blue, literals in red, and comments in green. The status bar at the bottom indicates 'Done uploading.' and provides memory usage statistics: 'Sketch uses 1014 bytes (3%) of program storage space. Maximum is 32256 bytes. Global variables use 9 bytes (0%) of dynamic memory, leaving 2035 bytes for local variables. Maximum is 2048 bytes.' The bottom of the image shows a Windows taskbar with various application icons and a system tray displaying '27°C Cloudy', '10:28', and '03-09-2024'.

```
sketch_sep03b | Arduino 1.8.19  
File Edit Sketch Tools Help  
sketch_sep03b $  
1 int redLight = 13;  
2 int yellowLight = 7;  
3 int greenLight = 8;  
4 void setup() {  
5   pinMode(redLight, OUTPUT);  
6   pinMode(yellowLight, OUTPUT);  
7   pinMode(greenLight, OUTPUT);  
8 }  
9 void loop() {  
10   digitalWrite(redLight, HIGH); // Turn on red light  
11   delay(500); // Wait for 5 seconds  
12   digitalWrite(redLight, LOW); // Turn off red light  
13  
14  
15  
16   digitalWrite(yellowLight, HIGH); // Turn on yellow light  
17   delay(2000); // Wait for 2 seconds  
18   digitalWrite(yellowLight, LOW); // Turn off yellow light  
19   digitalWrite(greenLight, HIGH); // Turn on green light  
20   delay(500); // Wait for 5 seconds  
21   digitalWrite(greenLight, LOW); // Turn off green light  
22 }  
23  
Done uploading.  
Sketch uses 1014 bytes (3%) of program storage space. Maximum is 32256 bytes.  
Global variables use 9 bytes (0%) of dynamic memory, leaving 2035 bytes for local variables. Maximum is 2048 bytes.  
20  
29  
Type here to search  
27°C Cloudy 10:28 03-09-2024
```

Google Drive Link:

<https://drive.google.com/file/d/1JESxG670Rlna6eYWMHvUR9FUXZt4Ur3/view?usp=sharing>

