Microcontroller- Lab 01

- **C code:**

```
// C++ code
//
#define redLed 9
#define greenLed 7
#define yellowLed 8

volatile int t20= 0; // timer for red and green light
volatile int t10= 0; // timer for yellow light

enum lightState { redYellow, yellowGreen };

lightState state;

void setup()
{
        pinMode(redLed, OUTPUT);
   pinMode(yellowLed, OUTPUT);
        pinMode(greenLed, OUTPUT);

}

void loop()
{
  t20 = 3000;
  t10 = 1000;
  stateMachine();

}

void stateMachine()
{
        switch(state)
   {
     case redYellow:

       digitalWrite(redLed, HIGH);
       delay (t20);
       digitalWrite(redLed, LOW);

       digitalWrite(yellowLed, HIGH);
       delay (t10);
       digitalWrite(yellowLed, LOW);
```

```
            state = yellowGreen;

                    break;

      case yellowGreen:

        /*digitalWrite(yellowLed, HIGH);
        delay (t10);
        digitalWrite(yellowLed, LOW);*/

        digitalWrite(greenLed, HIGH);
        delay (t20);
        digitalWrite(greenLed, LOW);

        digitalWrite(yellowLed, HIGH);
        delay (t10);
           digitalWrite(yellowLed, LOW);

        state = redYellow;

       break;

    default:
      break;
   }
}
```

- **Arduino simulation:**