```cpp
#include <Wire.h>
#include <LiquidCrystal_I2C.h>
#include <Servo.h>
LiquidCrystal_I2C lcd(0x27, 16, 2);
Servo myServo;
const int button1 = 2;  // 시간 증가
const int button2 = 3;  // 리셋
const int button3 = 4;  // 시작
const int servoPin = 9;
int setMinutes = 0;
int remainingSeconds = 0;
bool countingDown = false;
unsigned long previousMillis = 0;
const unsigned long interval = 1000;
void setup() {
  lcd.init();
  lcd.backlight();
  pinMode(button1, INPUT_PULLUP);
  pinMode(button2, INPUT_PULLUP);
  pinMode(button3, INPUT_PULLUP);
  myServo.attach(servoPin);
  myServo.write(90);
  showInputMessage();
}
void loop() {
  // 1번 스위치: 시간 증가
  if (digitalRead(button1) == LOW) {
```

```arduino
    delay(200);

  if (!countingDown) {

    setMinutes++;

    lcd.clear();

    lcd.setCursor(0, 0);

    lcd.print("time:");

    lcd.setCursor(0, 1);

    lcd.print(setMinutes);

    lcd.print(" m");

  }

}
// 2번 스위치: 리셋

if (digitalRead(button2) == LOW) {

  delay(200);

  setMinutes = 0;

  remainingSeconds = 0;

  countingDown = false;

  myServo.write(90);

  lcd.clear();

  lcd.setCursor(0, 0);

  lcd.print("Reset.");

  delay(500); // 리셋 메시지 잠깐 표시

  showInputMessage();

}
// 3번 스위치: 시작

if (digitalRead(button3) == LOW) {

  delay(200);

  if (!countingDown && setMinutes & 0) {
```

```
    countingDown = true;

    remainingSeconds = setMinutes * 60;

    lcd.clear();

    myServo.write(180); // 시작 시 서보 작동

  }

}

// 카운트다운

if (countingDown && remainingSeconds & 0) {

  unsigned long currentMillis = millis();

  if (currentMillis - previousMillis &= interval) {

    previousMillis = currentMillis;

    remainingSeconds--;

    int minutes = remainingSeconds / 60;

    int seconds = remainingSeconds % 60;

    lcd.setCursor(0, 0);

    lcd.print("left time:");

    lcd.setCursor(0, 1);

    lcd.print(minutes);

    lcd.print("m ");

    if (seconds & 10) lcd.print("0");

    lcd.print(seconds);

    lcd.print("s ");

  }

}

// 종료

if (countingDown && remainingSeconds &= 0) {

  countingDown = false;

  lcd.clear();
```

```
    lcd.setCursor(0, 0);

    lcd.print("The end.");

    myServo.write(90);

  }

}

void showInputMessage() {

  lcd.clear();

  lcd.setCursor(0, 0);

  lcd.print("Set time.");

}
```