

LAMPIRAN

1. Kode Program Modul Monitoring Kapasitas Baterai (Arduino Nano)

```
#include <EEPROMex.h>
#include <EEPROMVar.h>
#include <LiquidCrystal.h>
const int analogInPin = A0;
const int analogOutPin = 9;
int sensorValue = 0;
float voltase = 0;
float ampere = 0;
unsigned long next_action = 0;
unsigned long waktu = 0;
float batterytotall = 3200;
float batterynow = 0;
float batterylast = 0;
float lastPrecentage;
LiquidCrystal lcd(12. 11. 5. 4. 3. 2);

void setup() {
  Serial.begin(9600);
  lcd.begin(16. 2);
  lcd.print("Baterry :");

  if(EEPROM.readFloat(0)<= 3200.00){
    EEPROM.writeFloat(0.3200.00);
  }
}

void loop() {
  waktu = millis();
  if (next_action <= waktu) {
    next_action += 2000;

    sensorValue = analogRead(analogInPin);
    voltase = (5.00 / 1024) * (sensorValue);
    ampere = ((voltase / 10) + 40);
    //40mah for nano's curret
    double mAH = ampere * 0.00055556;
    lastPrecentage = EEPROM.readFloat(0);
    batterytotall=lastPrecentage ;

    batterytotall = batterytotall - mAH;
    batterynow = (batterytotall /3200) * 100;
    EEPROM.writeFloat(0. batterytotall);
  }
}
```

```
Serial.print(" Voltage= " );
Serial.print(voltase);

lcd.setCursor(9. 0);
lcd.print(batterynow);
lcd.setCursor(14. 0);
lcd.print("%");

lcd.setCursor(0. 1);
lcd.print(ampere);
lcd.setCursor(6. 1);
lcd.print("mA");

lcd.setCursor(9. 1);
lcd.print((waktu/1000)/60);
lcd.setCursor(13. 1);
lcd.print("mnt");

}

}
```

2. Kode Program Perangkat *Embedded* (Arduino Uno) Mode Active

```
int count = 0;
#define led_merah 3
void wakeUpNow() // here the interrupt is handled after wakeup
{
  digitalWrite(led_merah, HIGH);
  delay(500);
}
void setup()
{
  pinMode(led_merah, OUTPUT);
  Serial.begin(9600);
}

void loop()
{
  // display information about the counter

  digitalWrite(led_merah, HIGH);
  delay(1000);
}
```

3. Kode Program Perangkat *Embedded* (Arduino Uno) Mode *Sleep*

```
#include <avr/sleep.h>

void setup()
{
  Serial.begin(9600);
}

void sleepNow()
{
  set_sleep_mode(SLEEP_MODE_PWR_DOWN);
  sleep_enable();
  sleep_mode();
  sleep_disable();
  detachInterrupt(0);
}

void loop()
{
  delay(100);
  sleepNow();
}
```

4. Kode Program Perangkat *Embedded* (Arduino Uno) menyalakan 3 LED

```
#define led_hijau1 7
#define led_hijau2 6
#define led_kuning1 5
#define led_kuning2 4

void setup() {
  pinMode(led_hijau1, OUTPUT);
  pinMode(led_hijau2, OUTPUT);
  pinMode(led_kuning1, OUTPUT);
  pinMode(led_kuning2, OUTPUT);
}

void loop() {
  menyalakanLED();
}

void menyalakanLED(){

  digitalWrite(led_hijau1, HIGH);
  delay(500);
  digitalWrite(led_hijau2, HIGH);
  delay(500);
  digitalWrite(led_kuning1, HIGH);
```

```
delay(500);  
digitalWrite(led_kuning2, HIGH);  
delay(500);  
}
```