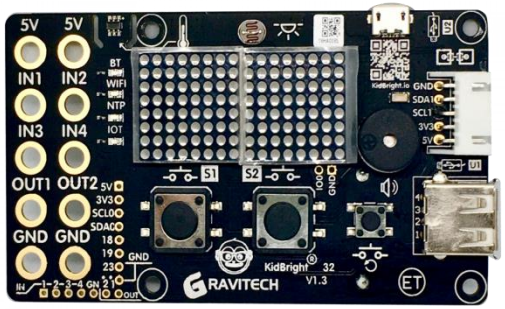
Work shop

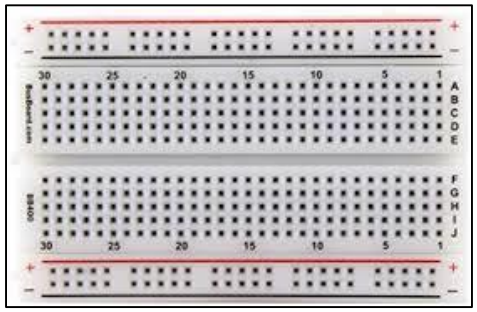
Basic of Internet of Things

ພາກປະຕິບັດ Practical

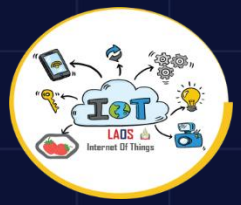
ສະຖານທີ່ ພາກວິຊາ ວິສະວະກຳຄອມພິວເຕີ ແລະ ເຕັກໂນໂລຊີຂໍ້ມູນຂ່າວສານ

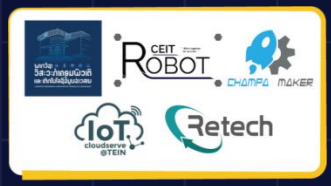
Lab 1


5V
5V
IN1
IN2
IN3
IN4
OUT1
OUT2
GND
GND
BT
WIFI
NTP
IOT
S1
S2
GRAVITECH
KidBright 32
V1.3



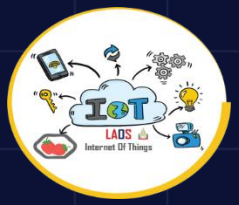
Code 1 (1)

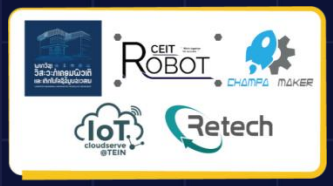





```
#define BLYNK_PRINT Serial

#include <WiFi.h>
#include <WiFiClient.h>
#include <BlynkSimpleEsp32.h>

char auth[] = "YourAuthToken";
char ssid[] = "CEIT-IoT";
char pass[] = "12345678";
```

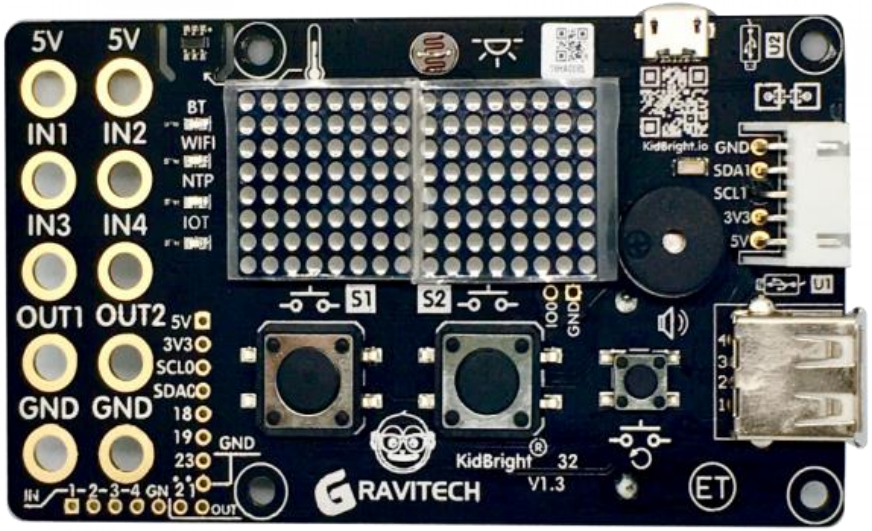
Code 1 (2)

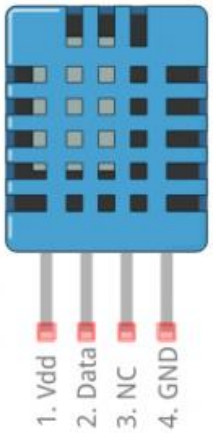




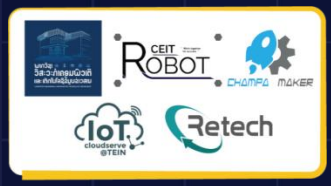

```
void setup() {
  Serial.begin(9600);
  Blynk.begin(auth, ssid, pass);
}

void loop() {
      Blynk.run();
}
```

Lab 2


5V
5V
IN1
IN2
IN3
IN4
OUT1
OUT2
GND
GND
BT
WIFI
NTP
IOT
S1
S2
KidBright.io
GND
SDA1
SCL1
3V3
5V
U1
KidBright 32
V1.3
GRAVITECH
ET

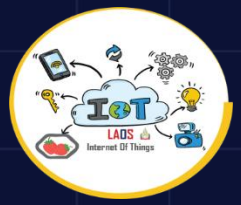

1. Vdd
2. Data
3. NC
4. GND

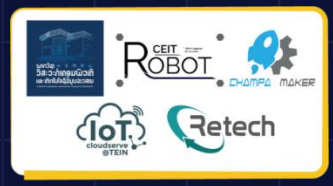
Code 2 (1)




```
#define BLYNK_PRINT Serial
#include <Wire.h>
#include <WiFiClient.h>
#include <BlynkSimpleEsp32.h>

char auth[] = "YourAuthToken";
char ssid[] = "CEIT-IoT";
char pass[] = "12345678";

#define LM73_ADDR 0x4D

double temp=0;
```

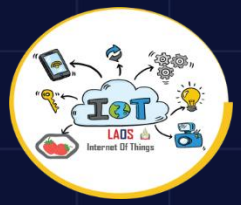
Code 2 (2)

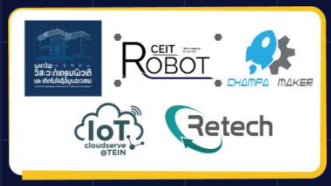





```
float readTemperature() {
  Wire1.beginTransmission(LM73_ADDR);
  Wire1.write(0x00); // Temperature Data Register
  Wire1.endTransmission();

  uint8_t count = Wire1.requestFrom(LM73_ADDR, 2);
  float temp = 0.0;
  if (count == 2) {
    byte buff[2];
    buff[0] = Wire1.read();
    buff[1] = Wire1.read();
    temp += (int)(buff[0]<<1);
    if (buff[1]&0b10000000) temp += 1.0;
    if (buff[1]&0b01000000) temp += 0.5;
    if (buff[1]&0b00100000) temp += 0.25;
    if (buff[0]&0b10000000) temp *= -1.0;
  }
  return temp;
}
```

Code 2 (3)






```
void setup() {
  Serial.begin(9600);
  Wire1.begin(4, 5);
  Blynk.begin(auth, ssid, pass);
}

void loop() {
      Blynk.run();

      temp = readTemperature();
      Serial.print("Temp:");Serial.println(temp);

      Blynk.virtualWrite(V1, temp);
      delay(2000);

      if( temp > 28 ){
        Blynk.notify("Temperature over 28");
      }
}
```