Verslagen Labo mobcom

Opdracht 1 : knipperlicht

Code:

// included libary

#include <Printers.h>

#include <XBee.h>

// defining the pin where we connect the led

const int ledPin = 13;

//setup routine

void setup()

{

pinMode(ledPin, OUTPUT);// making the ledpin an outout

}

// repeat forever

void loop()

{

digitalWrite(ledPin,HIGH);// led on

delay(500);// waiht 500ms

digitalWrite(ledPin,LOW);// led of

delay(500);

}

Opdracht 2 : Analog read

Code:

void setup() {

// initialize serial communication at 9600 bits per second:

Serial.begin(9600);

}

// the loop routine runs over and over again forever:

void loop() {

// read the input on analog pin 0:

int sensorValue = analogRead(A0);

// Convert the analog reading (which goes from 0 - 1023) to a voltage (0 - 5V):

float voltage = sensorValue \* (5.0 / 1023.0);

// print out the value you read:

Serial.println(voltage);

}

Verbeterde code:

void setup() {

// initialize serial communication at 9600 bits per second:

Serial.begin(9600);

}

// the loop routine runs over and over again forever:

void loop()

{

float SensorValue = 0;// declararation and init of the variable

SensorValue= SensorRead();// Reading the return value of the function

Serial.println(SensorValue);// printing the sensor value in volts

}

float SensorRead()

{

// read the input on analog pin 0:

int sensorValue = analogRead(A0);

// Convert the analog reading (which goes from 0 - 1023) to a voltage (0 - 5V):

float voltage = sensorValue \* (5.0 / 1023.0);

// return the value we need

return voltage;

}

Opdracht 3 : xbee broadcasting

#include <Printers.h>

#include <XBee.h>

XBee xbee = XBee();// creating a xbee class

uint8\_t payload[] = "Ben De Lathouwer";// what do we whant to send

XBeeAddress64 addr64 = XBeeAddress64(0x0, 0x0000ffff);

ZBTxRequest zbTx = ZBTxRequest(addr64, payload, sizeof(payload));// make Tx packet

void setup()

{

Serial.begin(9600);// init of the serial port

xbee.setSerial(Serial); // Tell XBee to use Hardware Serial.

}

void loop()

{

xbee.send(zbTx); // Send your request

delay(2000);// delay for 2 seconds

}

Nu ga ik wat interesante stukjes code uitleggen :

Het eerste interesante stukje code is het volgende:

XBeeAddress64 addr64 = XBeeAddress64(0x0, 0x0000ffff);

In dit stukje code schrijven we het broadcast adders van de ontvanger.

ZBTxRequest zbTx = ZBTxRequest(addr64, payload, sizeof(payload));// make Tx packet

In de bovenstaande stukje code maken we een packet dat we gaan verzenden. En deze is afhankelijk van de groote van de payload