

NIELIT, Gorakhpur

Course Name: A-level (1st Sem.)

Subject:IoT

Topic: I2C In Arduino Cont.

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Two-way communication between two Arduino using I2C

Let's write a program where we will send Hello message to slave and slave will respond back to the received message with Hi. Two Arduino Unos are used as master and Slave.

Sketch for Master

```
#include <Wire.h>

void setup() {
  Serial.begin(9600); /* begin serial comm. */
  Wire.begin(); /* join i2c bus as master */
  Serial.println("I am I2C Master");
}

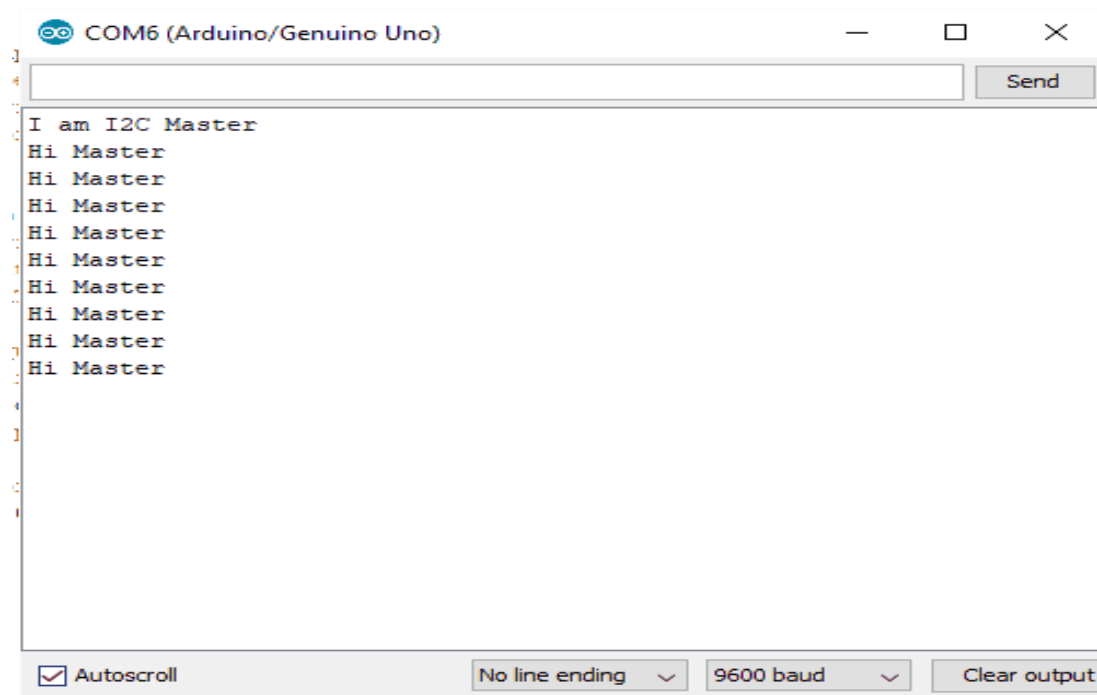
void loop() {
  Wire.beginTransmission(8); /* begin with device address 8 */
  Wire.write("Hello Slave"); /* sends hello string */
  Wire.endTransmission(); /* stop transmitting */

  Wire.requestFrom(8, 9); /* request & read data of size 9 from slave */
  while(Wire.available()){
    char c = Wire.read();/* read data received from slave */
    Serial.print(c);
  }
  Serial.println();
  delay(1000);
}
```

Sketch for Slave

```
#include <Wire.h>
void setup()
{
  Wire.begin(8);          /* join i2c bus with address 8 */
  Wire.onReceive(receiveEvent); /* register receive event */
  Wire.onRequest(requestEvent); /* register request event */
  Serial.begin(9600);     /* start serial comm. */
  Serial.println("I am I2C Slave");
}
void loop() {
  delay(100);
}
// function that executes whenever data is received from master
void receiveEvent(int howMany) {
  while (0 < Wire.available()) {
    char c = Wire.read(); /* receive byte as a character */
    Serial.print(c);      /* print the character */
  }
  Serial.println();      /* to newline */
}
// function that executes whenever data is requested from master
void requestEvent() {
  Wire.write("Hi Master"); /*send string on request */
}
```

Master's Serial Monitor Output



Slave's Serial Monitor Output

