

 <b>Marwadi</b> University <small>Marwadi Chandarana Group</small>	 <b>NAAC</b> <b>A+</b>	<b>Marwadi University</b> <b>Faculty of Engineering &amp; Technology</b> <b>Department of Information and Communication Technology</b>
<b>Subject: Programming With Python (01CT1309)</b>	<b>Aim:</b> Python Serial Port Communication Between PC and Arduino Using the PySerial Library	
<b>Experiment 25</b>	<b>Date:</b>	<b>Enrollment No: 92510133025</b>

**Aim:** Python Serial Port Communication Between PC and Arduino Using the PySerial Library

#### Arduino Code:

```
int x;

void setup()
{
    Serial.begin(115200);
    Serial.setTimeout(1);
    pinMode(2,OUTPUT);
}
```

```
void loop() {
    while (!Serial.available());
    x = Serial.readString().toInt();
    Serial.print(x + 1);
}
```

#### Python Code:

```
import serial
import time

arduino = serial.Serial(port='COM3', baudrate=115200, timeout=.1)
```

```
def write_read(x):
    arduino.write(bytes(x, 'utf-8'))
    time.sleep(0.05)

    data = arduino.readline() return
    data
```

while True:

```
    num = input("Enter a number: ") value
    = write_read(num) print(value)
```



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**Output:**

```
Enter a number: 5
6
Enter a number: 7
8
Enter a number: 3
4
Enter a number: 5
6
Enter a number: 3
5
:
6
```



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## Post Lab

Write a Python script to send a message from the PC to Arduino using PySerial.

Arduino Code:

```
String msg;  
void setup() {  
    Serial.begin(115200);  
    Serial.setTimeout(1);  
}  
void loop() {  
    while (!Serial.available());  
    msg = Serial.readString();  
    Serial.println("Received: " + msg);  
}
```

Python Code:

```
arduino = serial.Serial(port='COM3', baudrate=115200, timeout=0.1)  
def send_message(msg):  
    arduino.write(bytes(msg, 'utf-8'))  
    time.sleep(0.05)  
    data = arduino.readline()  
    return data  
while True:  
    text = input("Enter message: ")  
    response = send_message(text)  
    print(response)
```

```
Enter message:Hello  
Received: Hello  
Enter message:World  
Received: World  
Received: World
```