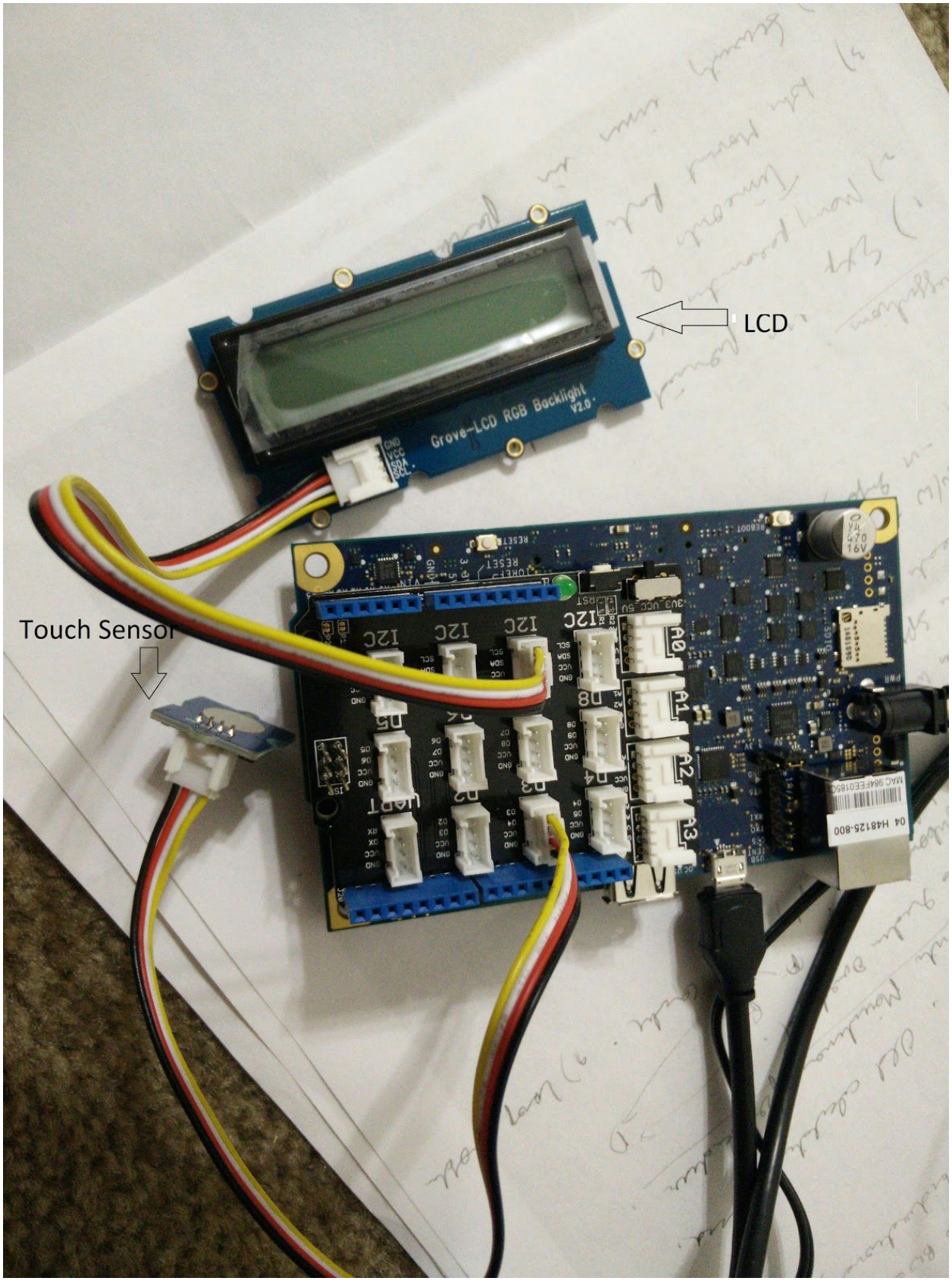
Morse code application - Processing human touch as input.

This application takes the **Morse code** input through the **human touch via touch sensor** and converts it into its equivalent word.
This application is built on **Intel Galileo** microcontroller based board. LCD and the touch sensors used are a part of the ‘Grove sensor kit’ .

IDE used - **Arduino**
Language used - **Embedded C**

This application processes the human input and checks the duration for which the touch is maintained by the user.
If the user maintains the touch for less than or equal to 2 seconds , then the touch corresponds to a **dot (.)** .
If the touch is for more than 2 seconds , then the touch corresponds to a **dash (-).**

The connections of the LCD and the touch sensor are as follows.

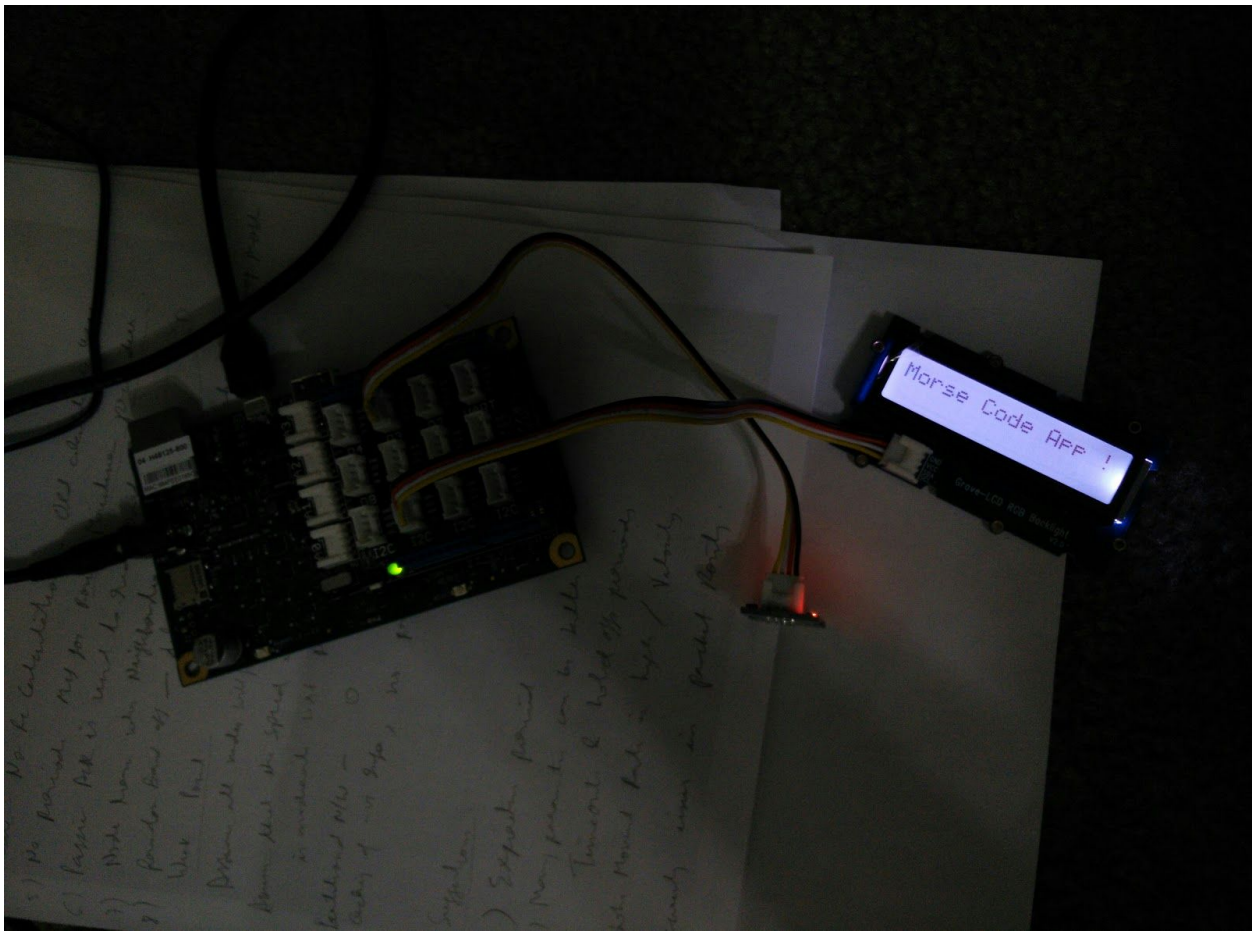

LCD
Grove-LCD RGB Backlight
V2.0
Touch Sensor

The user needs to first input the number of characters present in the morse code. And then give the touch input that many times. And then its equivalent word will be shown on the lcd.

The code for this is present in source_code folder.
The libraries needed for LCD are also present in the same folder.

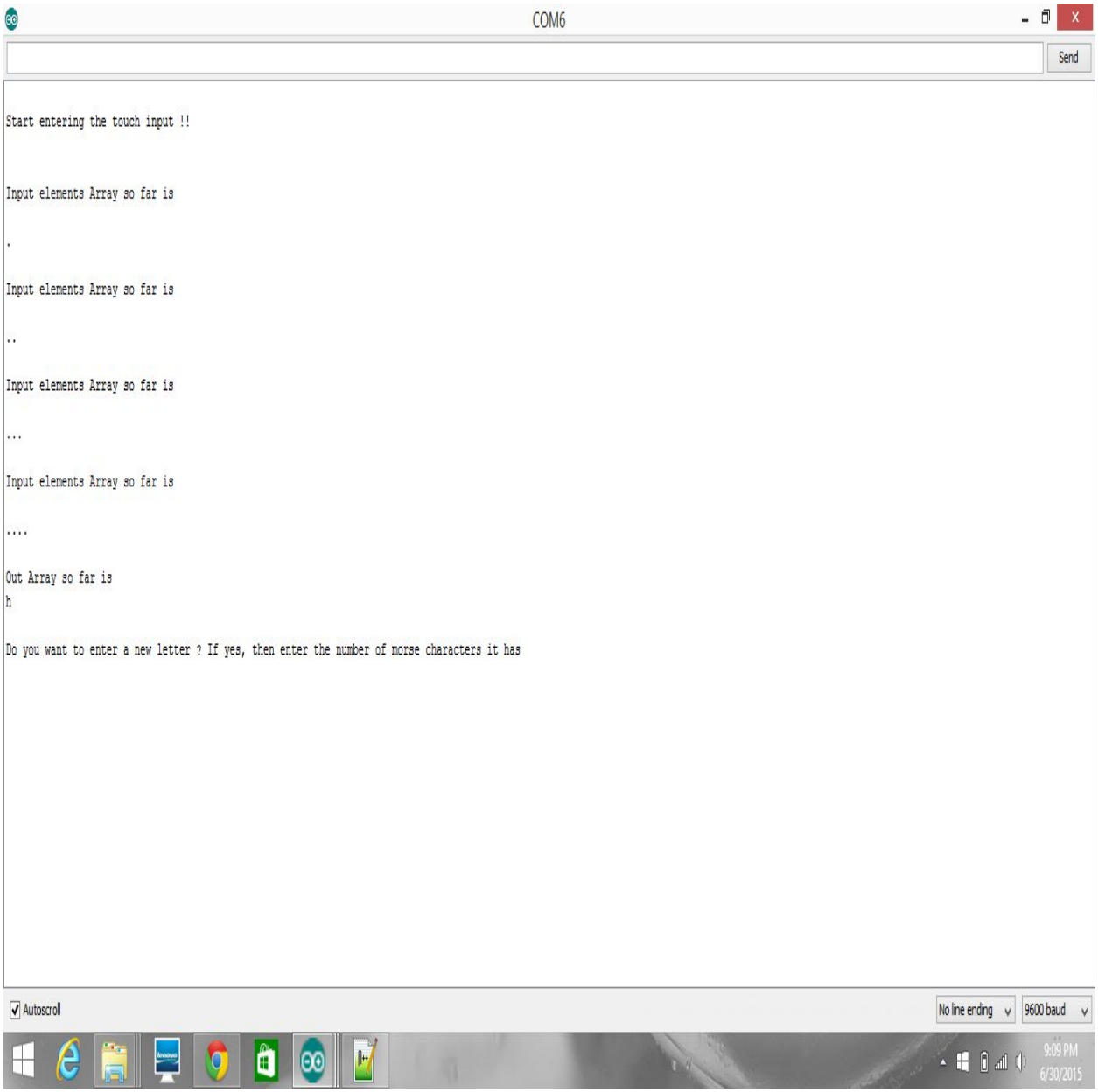
We will print the word ‘Hello’ on the lcd in the following steps.

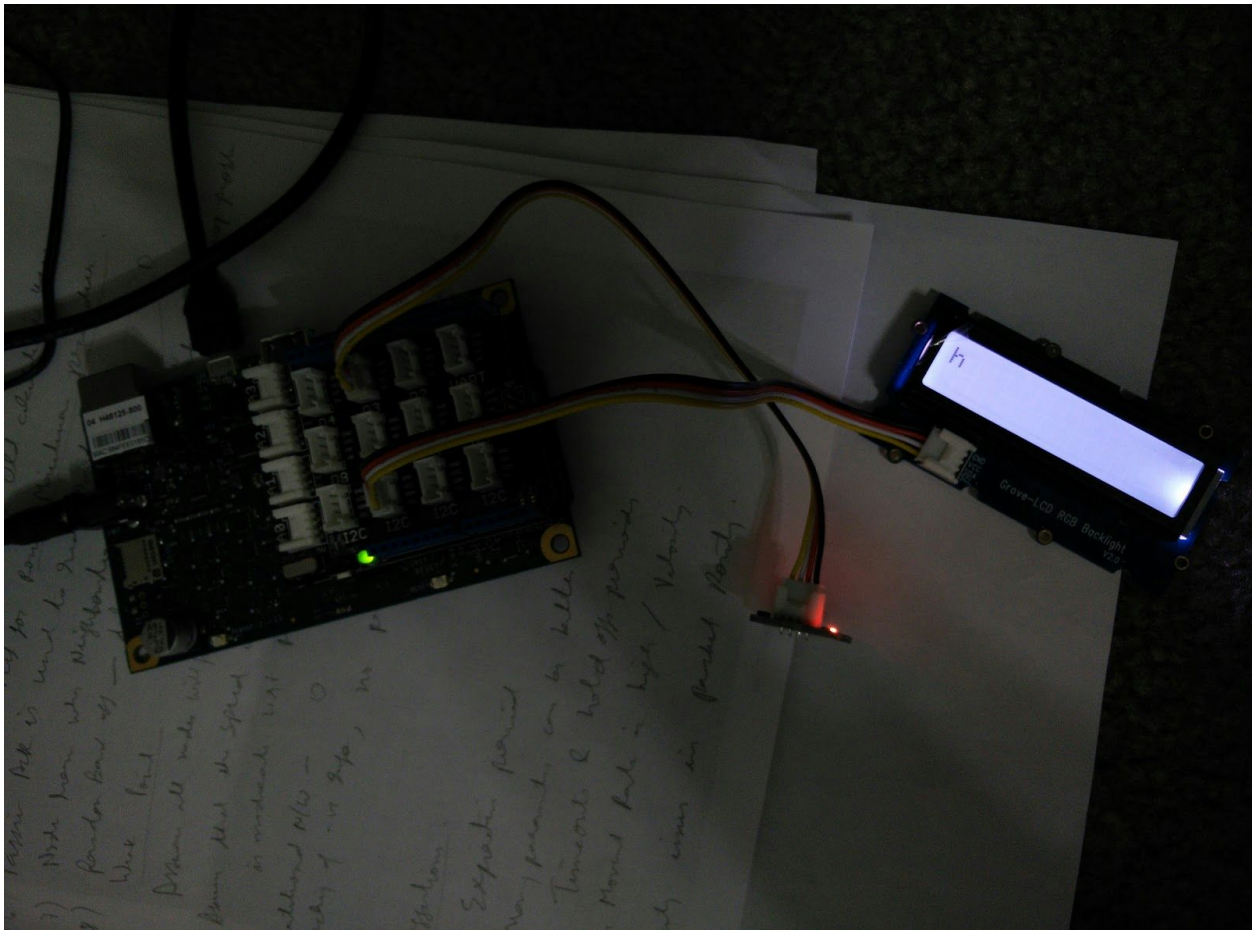
Step 1) The initial screen looks like the following -



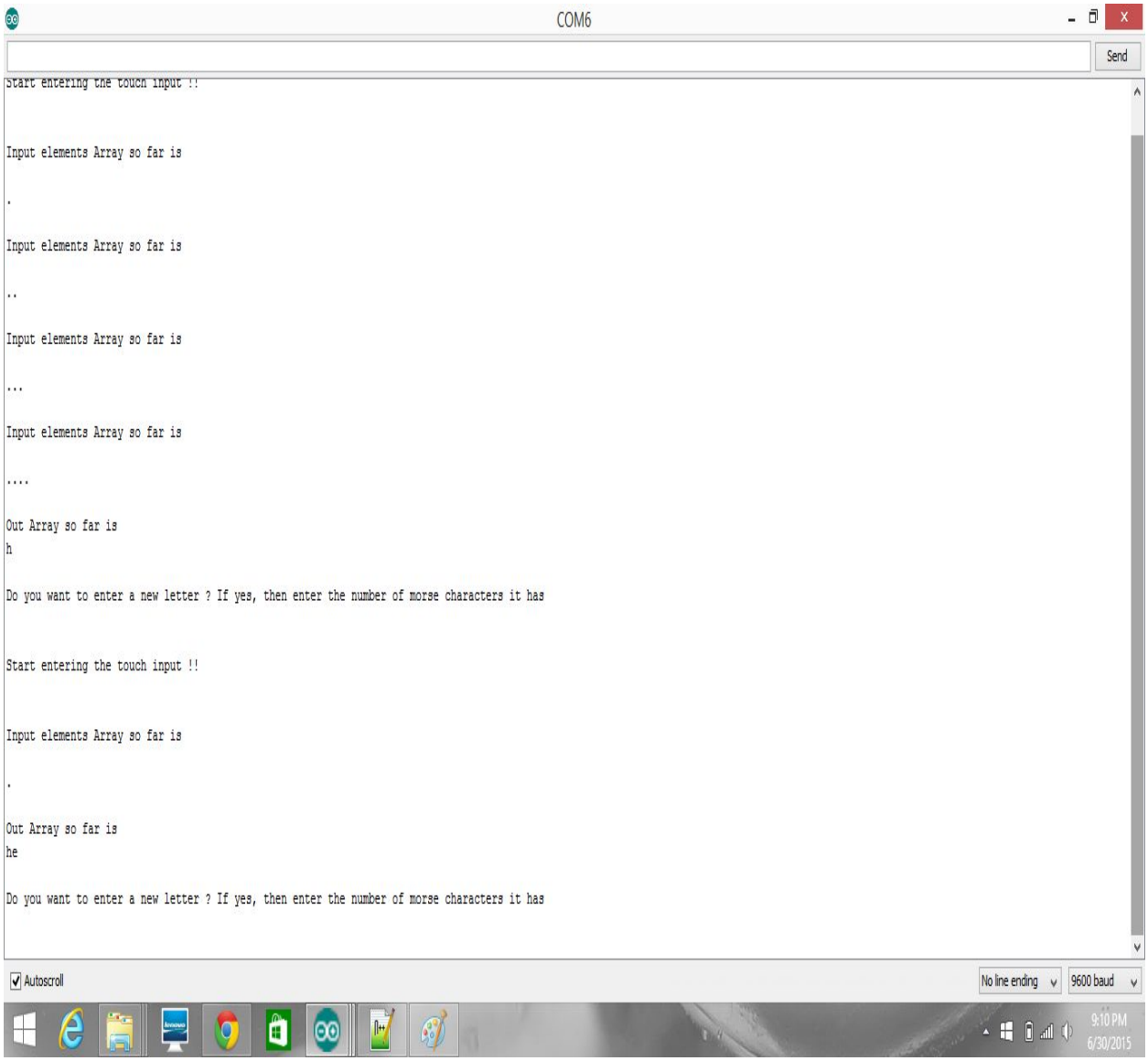
Step 2)

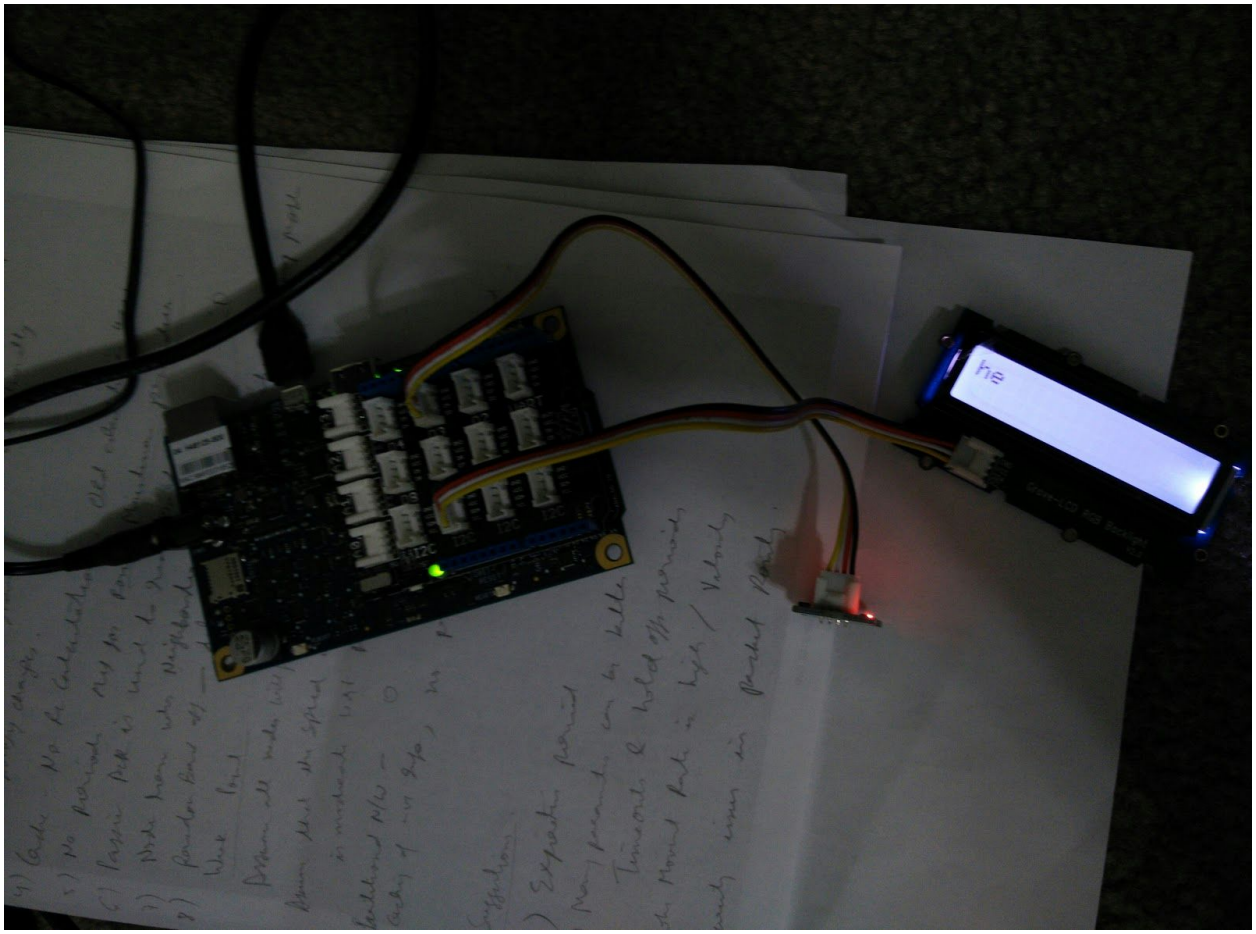
The user enters ‘....’ which is equivalent to ‘h’


COM6
Send
Start entering the touch input !!
Input elements Array so far is
.
Input elements Array so far is
..
Input elements Array so far is
...
Input elements Array so far is
....
Out Array so far is
h
Do you want to enter a new letter ? If yes, then enter the number of morse characters it has
Autoscroll
No line ending
9600 baud
9:09 PM
6/30/2015

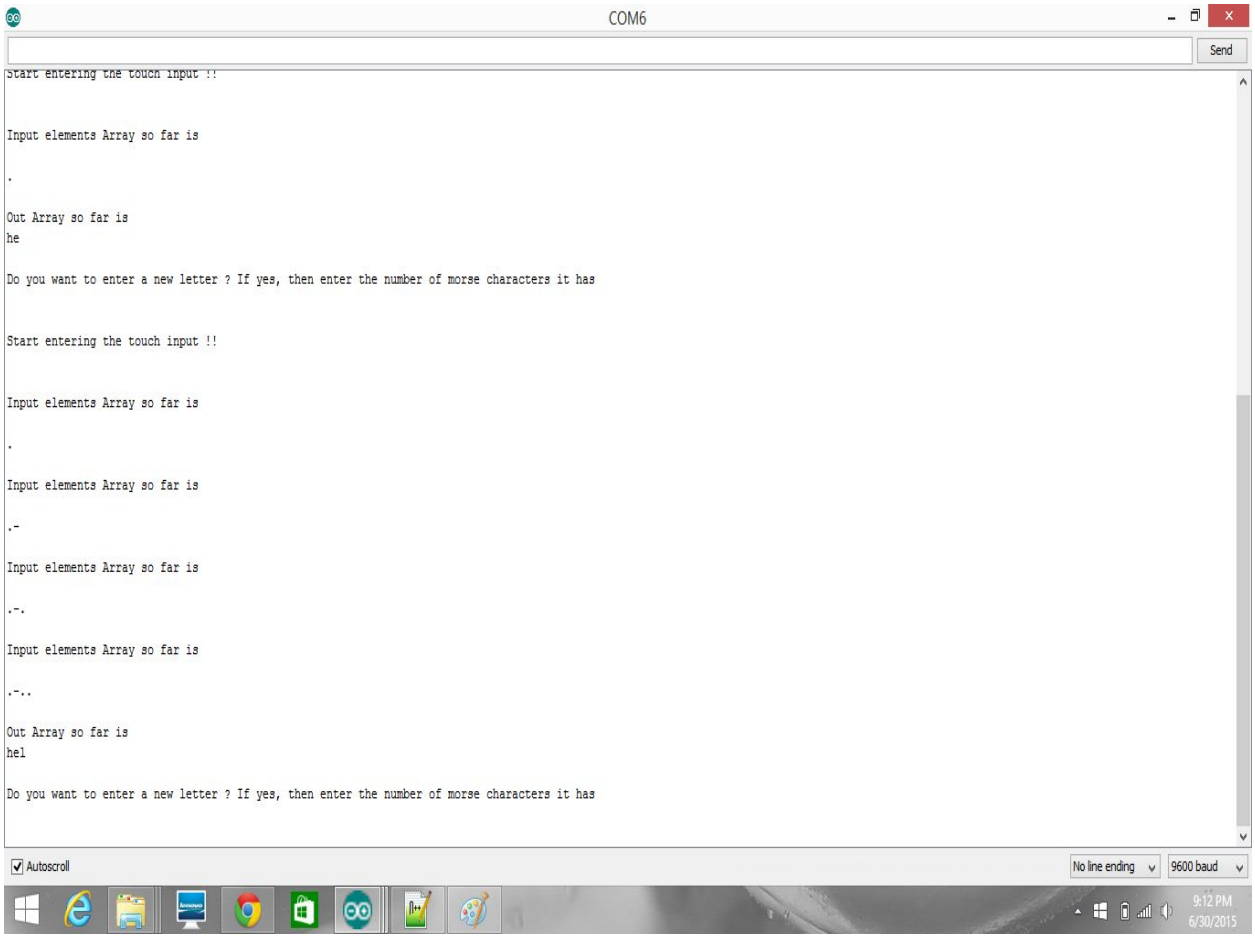


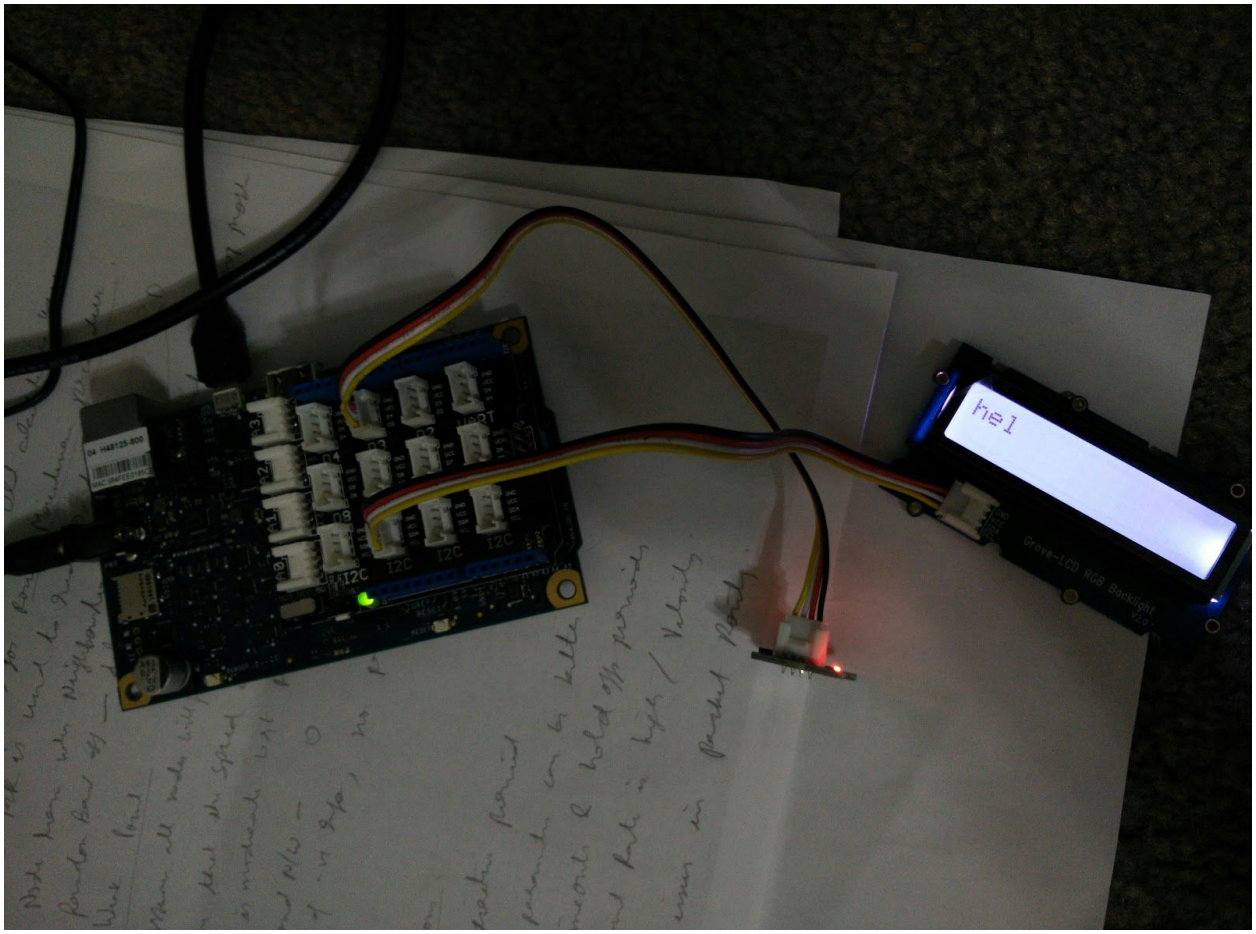
Step 3) The user enters ‘.’ which is equivalent to ‘e’.


COM6
Send
Start entering the touch input !!
Input elements Array so far is
.
Input elements Array so far is
..
Input elements Array so far is
...
Input elements Array so far is
....
Out Array so far is
h
Do you want to enter a new letter ? If yes, then enter the number of morse characters it has
Start entering the touch input !!
Input elements Array so far is
.
Out Array so far is
he
Do you want to enter a new letter ? If yes, then enter the number of morse characters it has
Autoscroll
No line ending
9600 baud
9:10 PM
6/30/2015

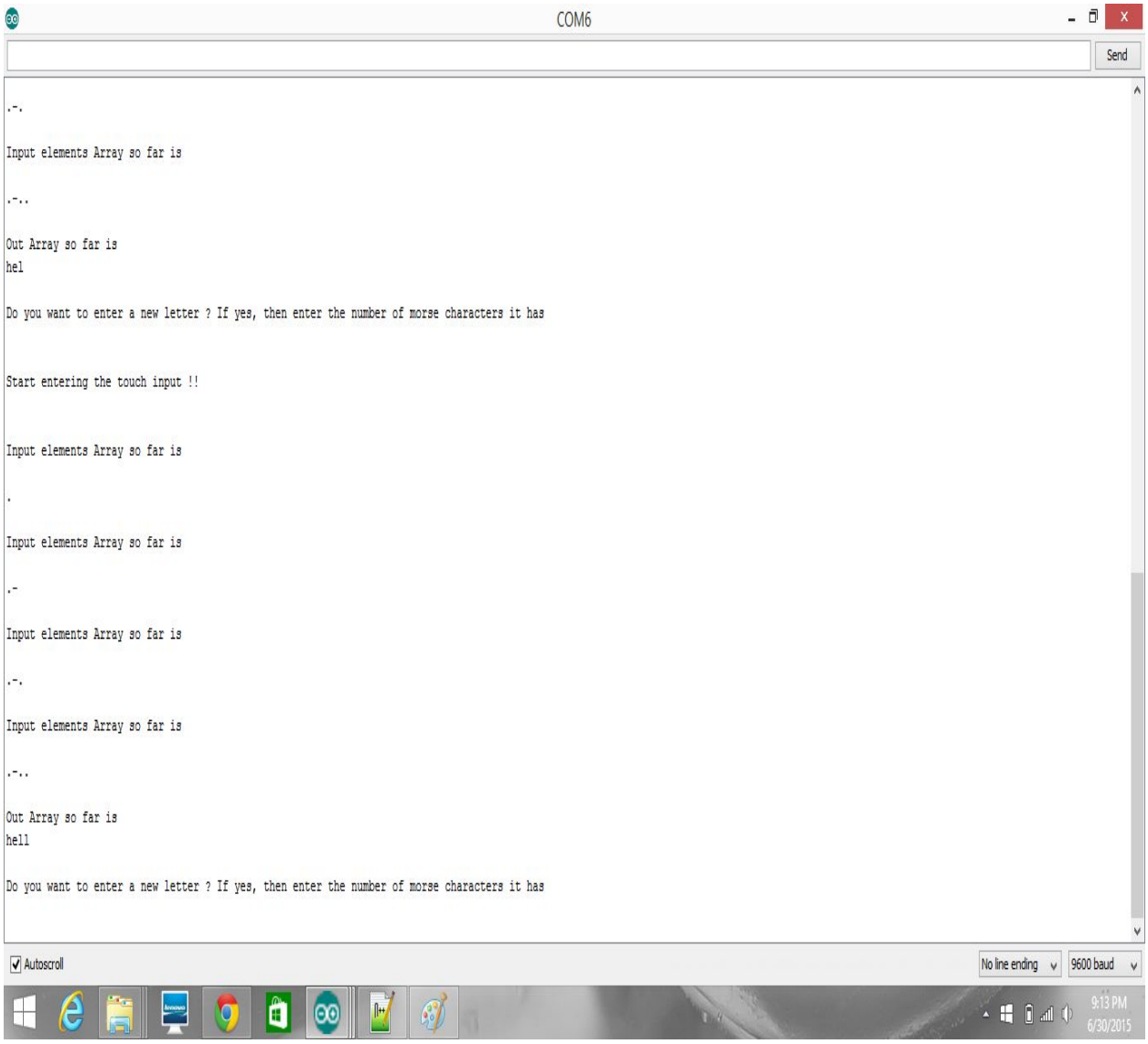


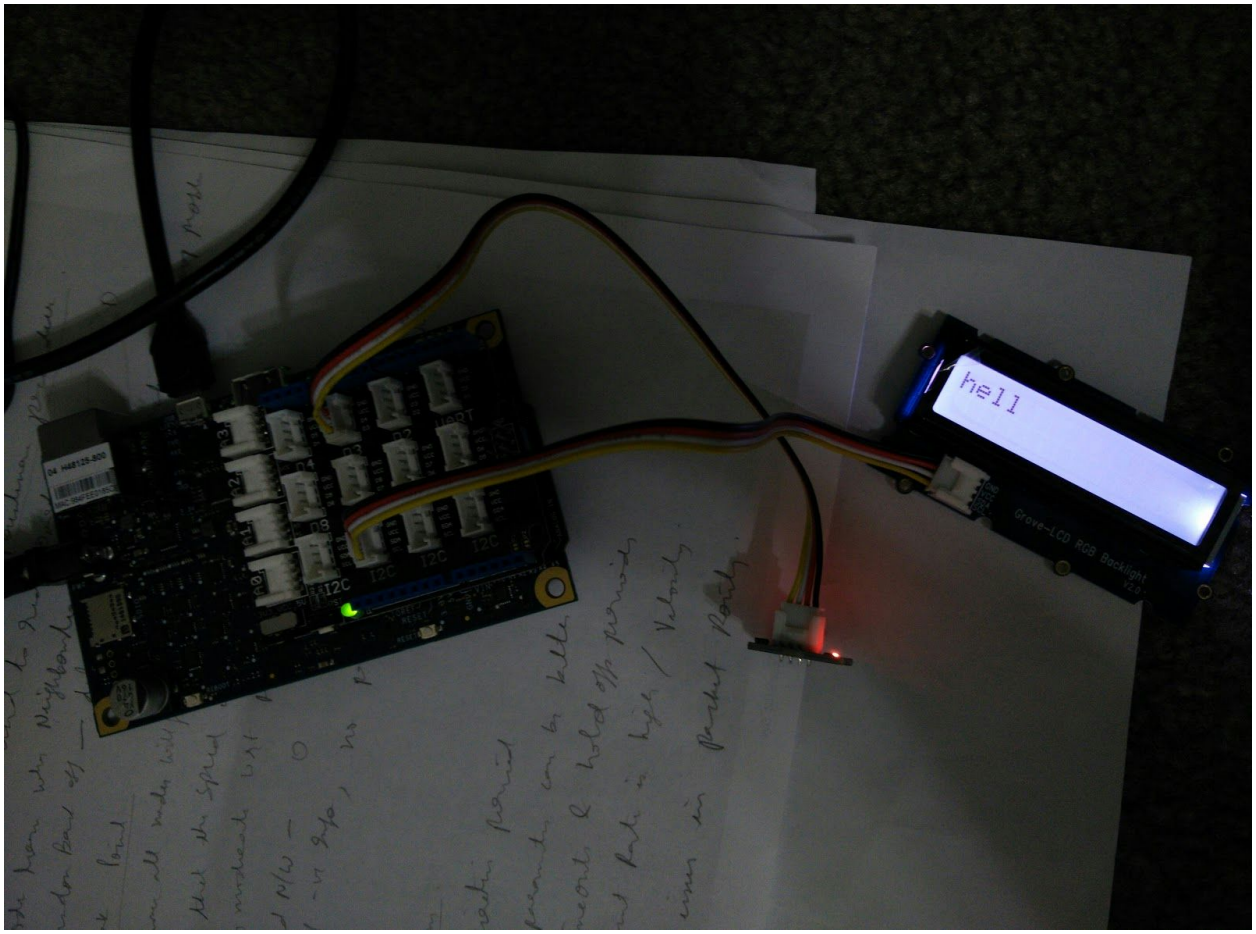
Step 4) The user enters ‘.-..’ which is equivalent to ‘l’


COM6
Send
Start entering the touch input !!
Input elements Array so far is
.
Out Array so far is
he
Do you want to enter a new letter ? If yes, then enter the number of morse characters it has
Start entering the touch input !!
Input elements Array so far is
.
Input elements Array so far is
.-
Input elements Array so far is
.-.
Input elements Array so far is
.-..
Out Array so far is
hel
Do you want to enter a new letter ? If yes, then enter the number of morse characters it has
Autoscroll
No line ending
9600 baud
9:12 PM
6/30/2015

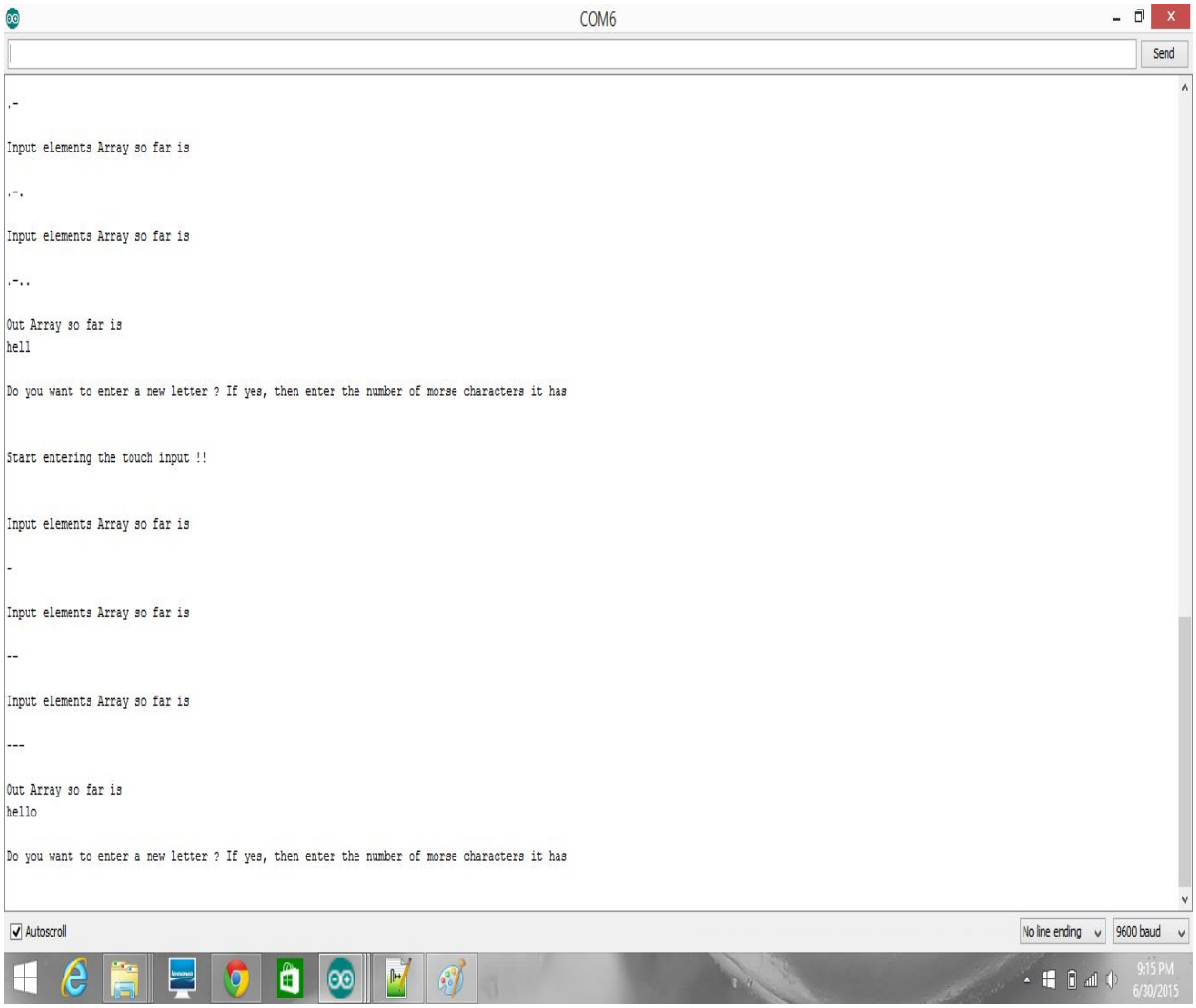


Step 5) The user enters ‘.-..’ again which is equivalent to ‘l’

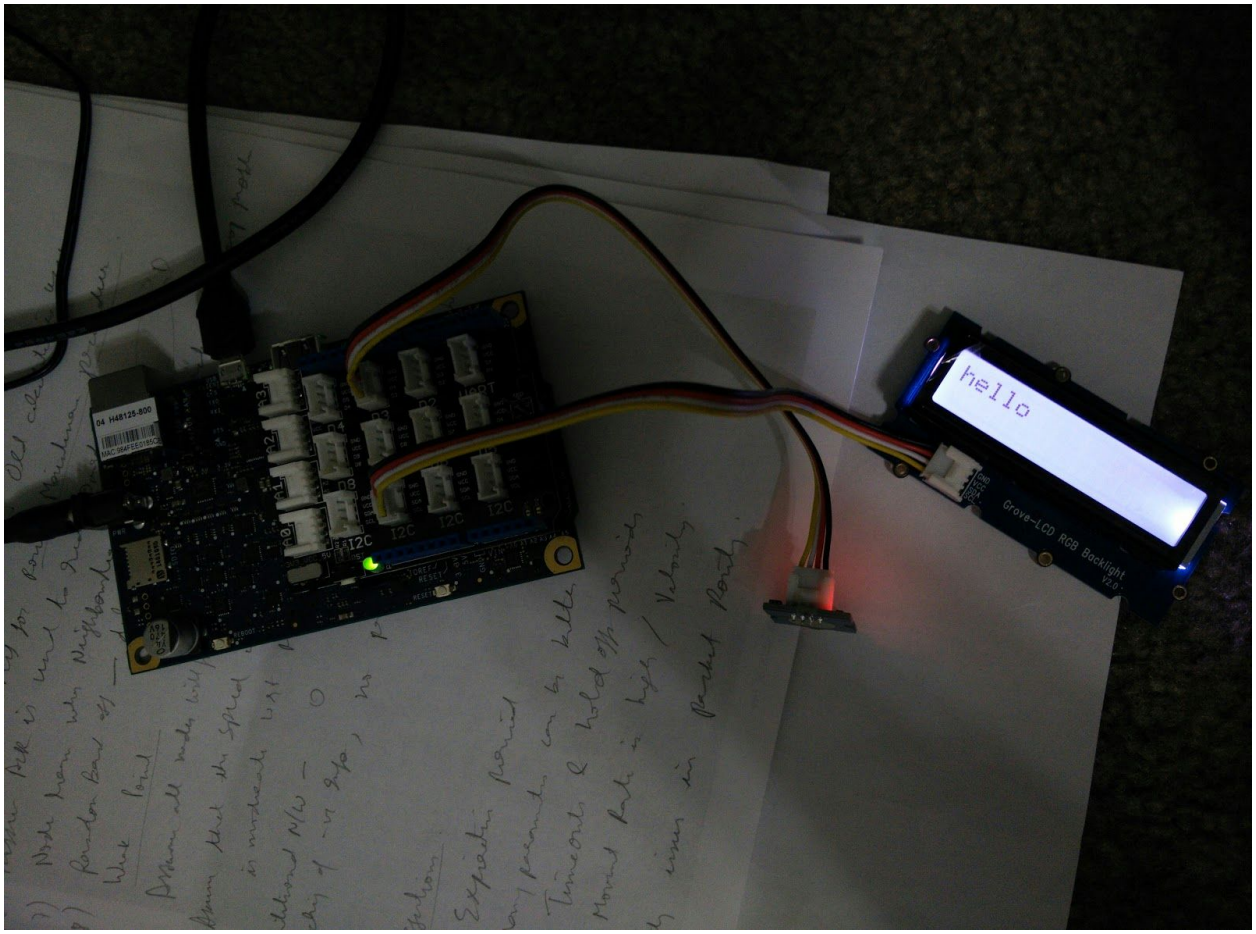

COM6
Send
.-.
Input elements Array so far is
.-..
Out Array so far is
hel
Do you want to enter a new letter ? If yes, then enter the number of morse characters it has
Start entering the touch input !!
Input elements Array so far is
.
Input elements Array so far is
.-
Input elements Array so far is
.-.
Input elements Array so far is
.-..
Out Array so far is
hell
Do you want to enter a new letter ? If yes, then enter the number of morse characters it has
Autoscroll
No line ending
9600 baud
9:13 PM
6/30/2015



Step 6) The user enters ‘---’ which is equivalent to ‘o’


COM6
Send
.-
Input elements Array so far is
.-.
Input elements Array so far is
.-..
Out Array so far is
hell
Do you want to enter a new letter ? If yes, then enter the number of morse characters it has
Start entering the touch input !!
Input elements Array so far is
-
Input elements Array so far is
--
Input elements Array so far is

Out Array so far is
hello
Do you want to enter a new letter ? If yes, then enter the number of morse characters it has
Autoscroll
No line ending
9600 baud
9:15 PM
6/30/2015


hello
Grove-LCD RGB Backlight
V2.0
I2C
I2C
I2C
I2C
UART