Microcontroller Lab 01 Part 02

Submitted by:

Kazi Shadman Sakib
FH-97
3rd Year
Computer Science and Engineering, University of Dhaka

Programming GPIO pin:

(i) Program two GPIO pins for inputs PA13 and PA15
(ii) Program four GPIO pins for output (using 4 LEDs (Green PA5, White PA6, Yellow PC5 and Red PC6))

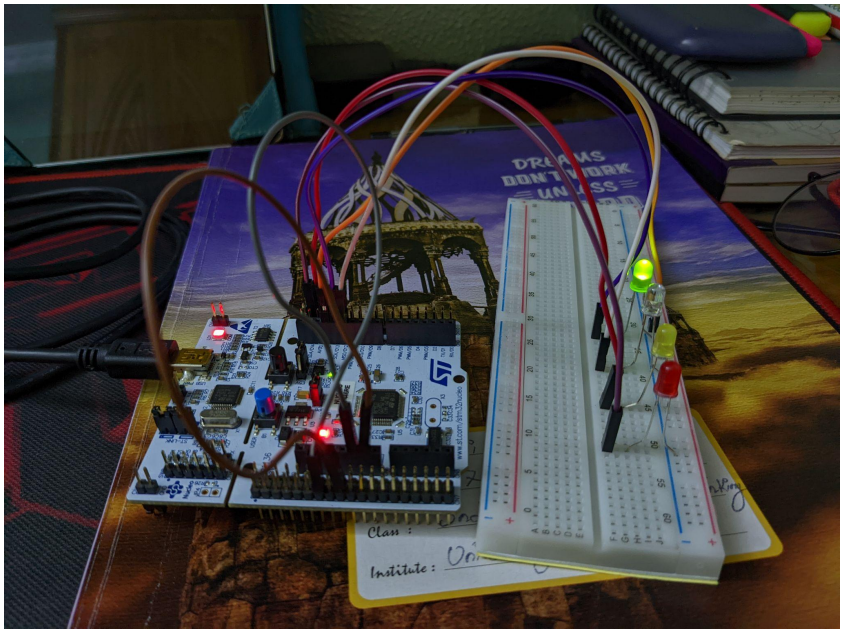
Demonstration:

(a) Based on the input combination, the one output pin must be activated.

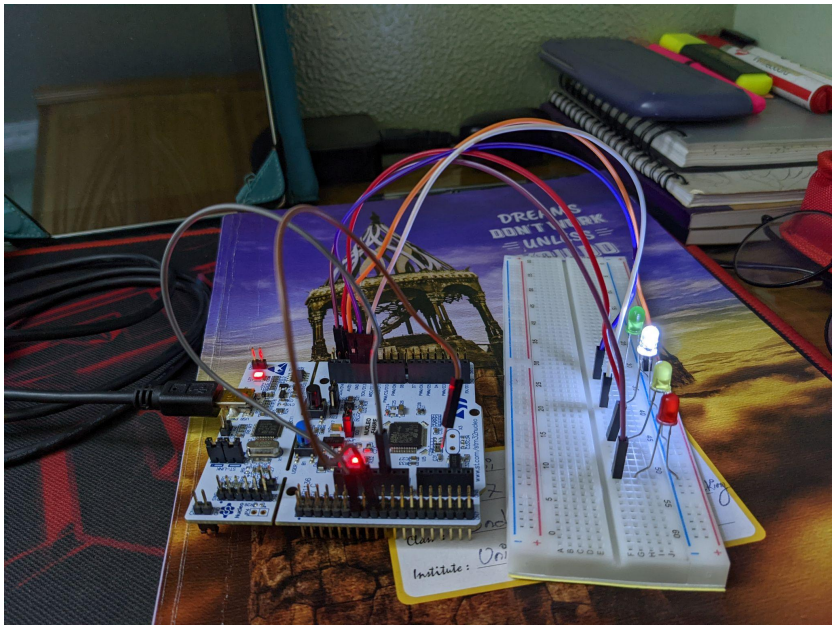
Truth Table of two input - four output:

Inputs PA13 and PA15	LED 01 (Green) PA5	LED 02 (White) PA6	LED 03 (Yellow) PC5	LED 04 (Red) PC6
00	1	0	0	0
01	0	1	0	0
10	0	0	1	0
11	0	0	0	1

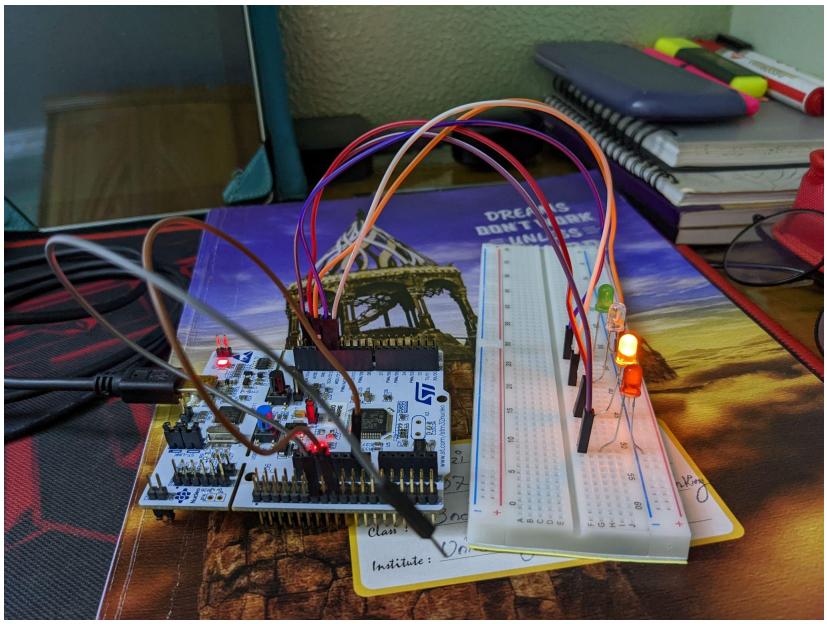
Output of **00** input picture:



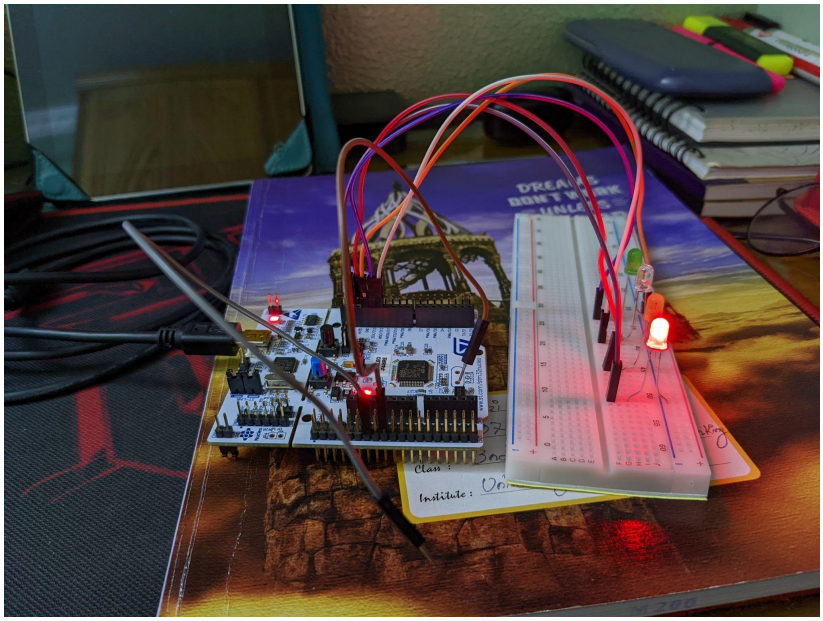
Output of **01** input picture:



Output of **10** input picture:



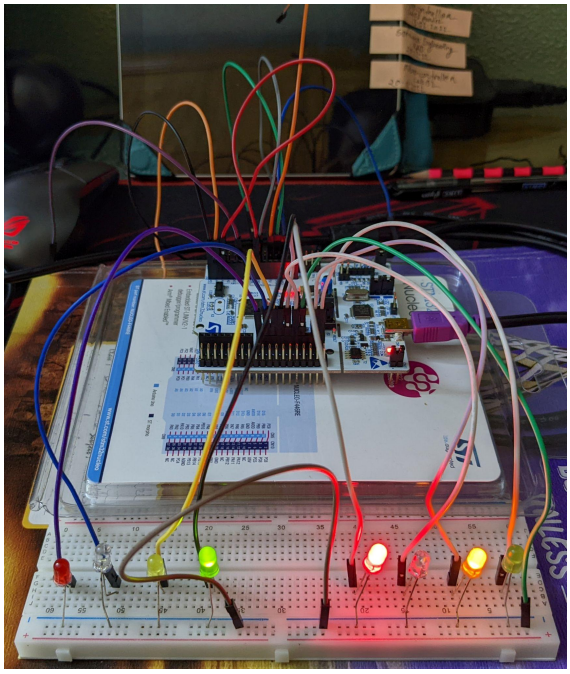
Output of **11** input picture:



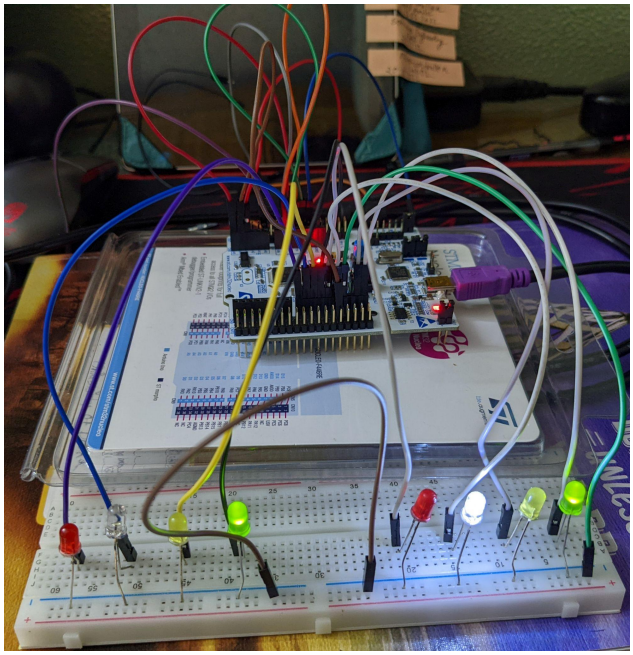
Demonstration:

(b.1) Program two groups of 4-input for two 4-bit integers. Sum the two input 4-bit integer values and output by lighting 8-LED for the result.

Sum of input1 (1111) and input2 (1011) : Output- 00011010

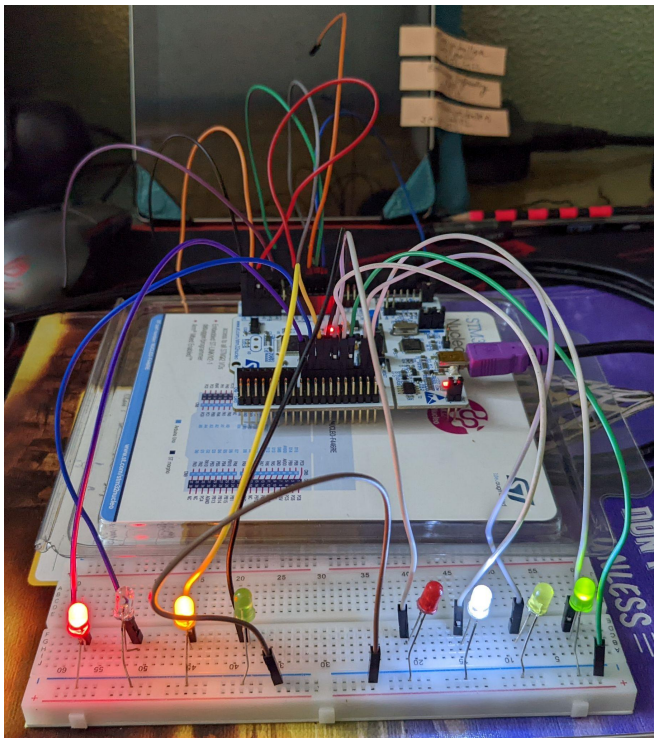


Sum of input1 (1001) and input2 (1100) : Output- 00010101



(b.2) Program two groups of 4-input for two 4-bit integers. Multiply the two input 4-bit integer values and output by lighting 8-LED for the result.

Multiplication of input1 (1111) and input2 (1011): Output- 10100101



Multiplication of input1 (1001) and input2 (1100) : Output- 01101100