



भारतीय प्रौद्योगिकी संस्थान हैदराबाद
Indian Institute of Technology Hyderabad

ASSIGNMENT-1

A.CHINNAPA REDDY

alavalachinnapareddy491@gmail.com

IITH - Future Wireless Communication (FWC22033)



Contents

Abstract

The objective of this manual is to show how to Verify the Boolean Expression $A+C=A+A'.C+B.C$

1 Components

Component	Value	Quantity
Arduino	UNO	1

TABLE 1.0

1.1 Arduino

The Arduino UNO has some ground pins, analog input pins A0-A3 and digital pins D1-D13 that can be used for both input as well as output. It also has two power pins that can generate 3.3V and 5V. In the following exercises, only the GND, 5V and digital pins will be used.

2 Implementation

2.1 Karunugh Map

Assign $X=A+C$

		<i>BC</i>			
		00	01	11	10
<i>A</i>	0	0	1	1	0
	1	1	1	1	1

FIGURE 2.1

Assign $Y=A+A'.C+BC$

		<i>BC</i>			
		00	01	11	10
<i>A</i>	0	0	1	1	0
	1	1	1	1	1

FIGURE 2.2

Above K-maps are verify using Table-0
Assume that $F=X=Y$

A	B	C	F
0	0	0	0
0	0	1	1
0	1	0	0
0	1	1	1
1	0	0	1
1	0	1	1
1	1	0	1
1	1	1	1

TABLE 2

3 HARDWARE

1. Connect the Arduino to the computer.
2. Download the following directory

[https://github.com/chinnapa5264/FWC-Module1/blob/main/Assignment ide /codes/src/main.cpp](https://github.com/chinnapa5264/FWC-Module1/blob/main/Assignment%20ide%20codes/src/main.cpp)

3. The LED beside pin 13 light up.