

IMPLEMENTATION OF BOOLEAN LOGIC IN VAMAN ESP

Kanike Bhavani

bhavani7013313986@gmail.com

FWC22017

IITH Future Wireless Communication (FWC)

ASSIGNMENT

November 4, 2022

Contents

problem

Draw the logic circuit of the following Boolean Expression using only NAND Gates : $X.Y + Y.Z$

solution

Implementing the given function using NAND Gates only

$$F = XY + YZ$$

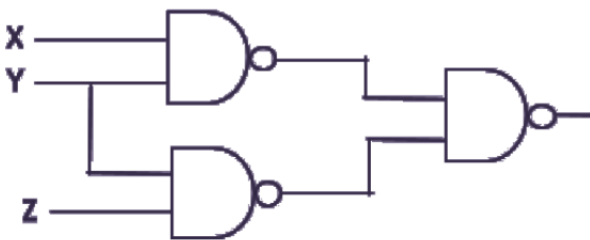


Figure 1: circuit

Components

Components	Values	Quantity
Vaman Board		1
JumperWires	M-F	15
Breadboard		1
USB-C Cable		1
USB-UART		1
7-Segment		1
7447 IC		1

The steps for implementation:

1. Connect the USB-UART pins to the Vaman ESP32 pins according to Table

VAMAN LC PINS	UART PINS
GND	GND
ENB	ENB
TXD0	RXD
RXD0	TXD
0	IO0
5V	5V

2. Flash the following setup code through USB-UART using laptop

```
https://github.com/bhavani360/FWC_
assignments/blob/main/iot/codes/setup/
src/main.cpp
```

```
svn co https://github.com/bhavani360/
FWC.assignments/trunk/iot/codes/setup
cd setup
pio run
pio run -t upload
```

after entering your wifi username and password (in quotes below)

```
#define STASSID "..." // Add your network
credentials
#define STAPSK "..."
```

in src/main.cpp file

3. You can notice that vaman will be connected to the network credentials provided above. Connect your laptop to the same network, You should be able to find the ip address of your vaman-esp on laptop using

```
ifconfig
nmap -sn 192.168.169.1/24
```

where your computer's ip address is the output of ifconfig and given by 192.168.6.x

4. Login to termux-ubuntu on the android device and execute the following commands:

```
proot--distro login debian
cd /data/data/com.termux/files/home/
mkdir iot
svn co https://github.com/soundaryanaru/FWC-
assignments/trunk/iot/codes/ota
cd codes
```

5. Assuming that the username is OnePlus 7Pro and password is bhavani@360, flash the following code wirelessly

```
https://github.com/bhavani360/FWC\_assignments/blob/main/iot/codes/src/main.cpp
```

through

```
pio run  
pio run -t nobuild -t upload --upload-port  
ip_address_of_esp
```

where you may replace the above ip address with the ip address of your vaman-esp.