Final Testing Procedure

Connnections:

Front Sensor:

VCC – 3.3V on ESP

trigPin – ESP pin number 18

echoPin - ESP pin number 23

GND – GND on ESP

Back sensor:

VCC – 3.3Vwhite on ESP

trigPin – ESP pin number 19

echoPin – ESP pin number 22

GND – GND on ESP

// Left Motor (motor 1)

Input 1 - Pin1 25 (ESP)

Input 1 - Pin2 26 (ESP)

Enable A - Pin 27 (ESP)

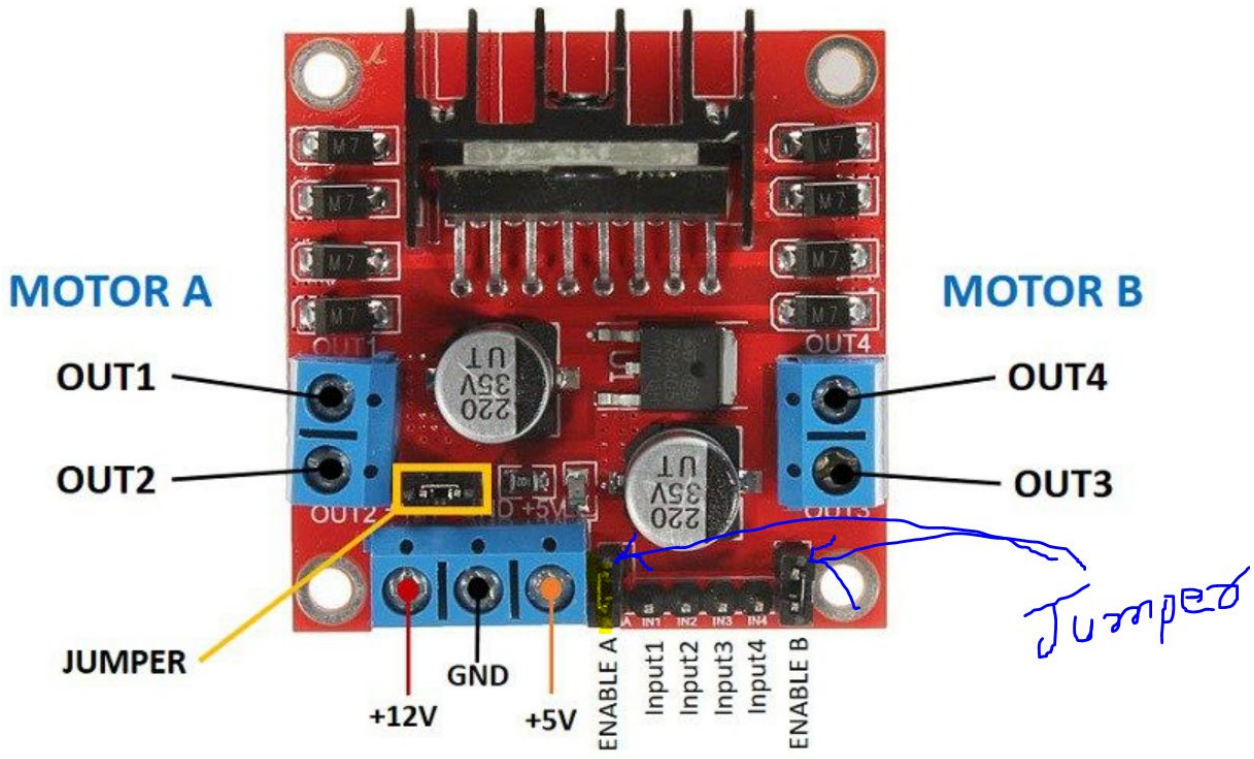
// Right Motor (motor 2)

Input 3 blue - Pin1 14 (ESP)

Input 4 -yellow Pin2 12 (ESP)

Enable B green – Pin 13 (ESP)

Note: Please remove jumpers from Enable A and B



Lever connections:

L- to pin 5

R- to pin 17 but with 1k ohm resistor as shown in figure

L+ and R+ remains open

+(positive) connected to 3.3V via 1k ohm resistor

-(negative) Connected to ground

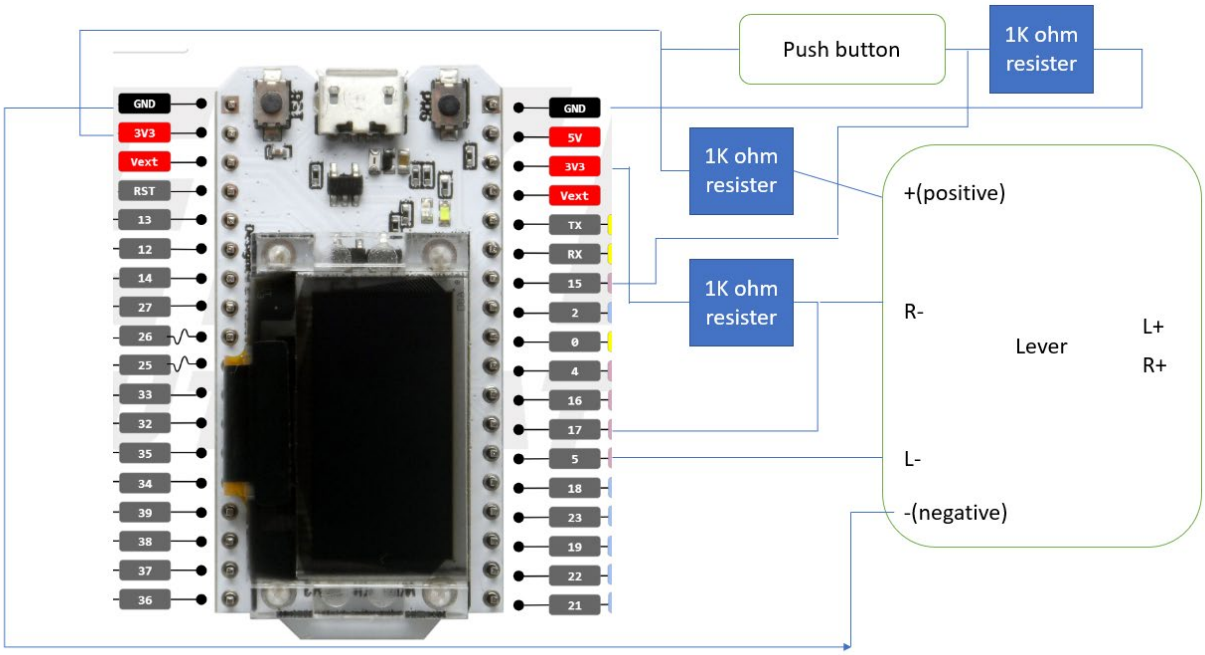
Switch (ON/OFF) connections:

One terminal of push button – 3.3V

Second terminal of Push button – 1Kohm resister

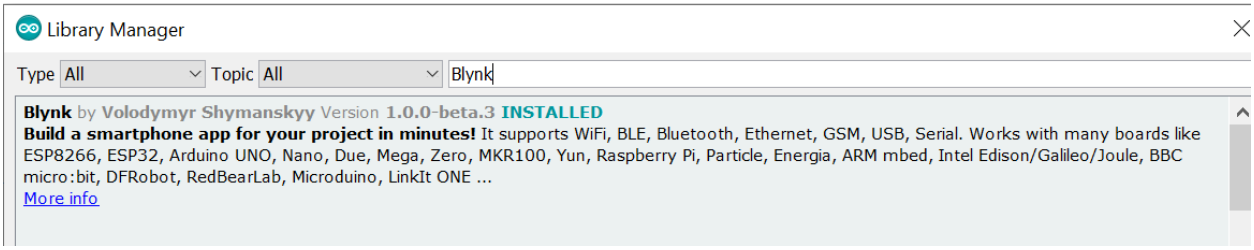
Second terminal of 1 Kohm resister – GND

Second terminal of push button (or First terminal of 1 Kohm resister) – pin 15 of ESP32



Blynk setup:

Please install “Blynk” library before following steps

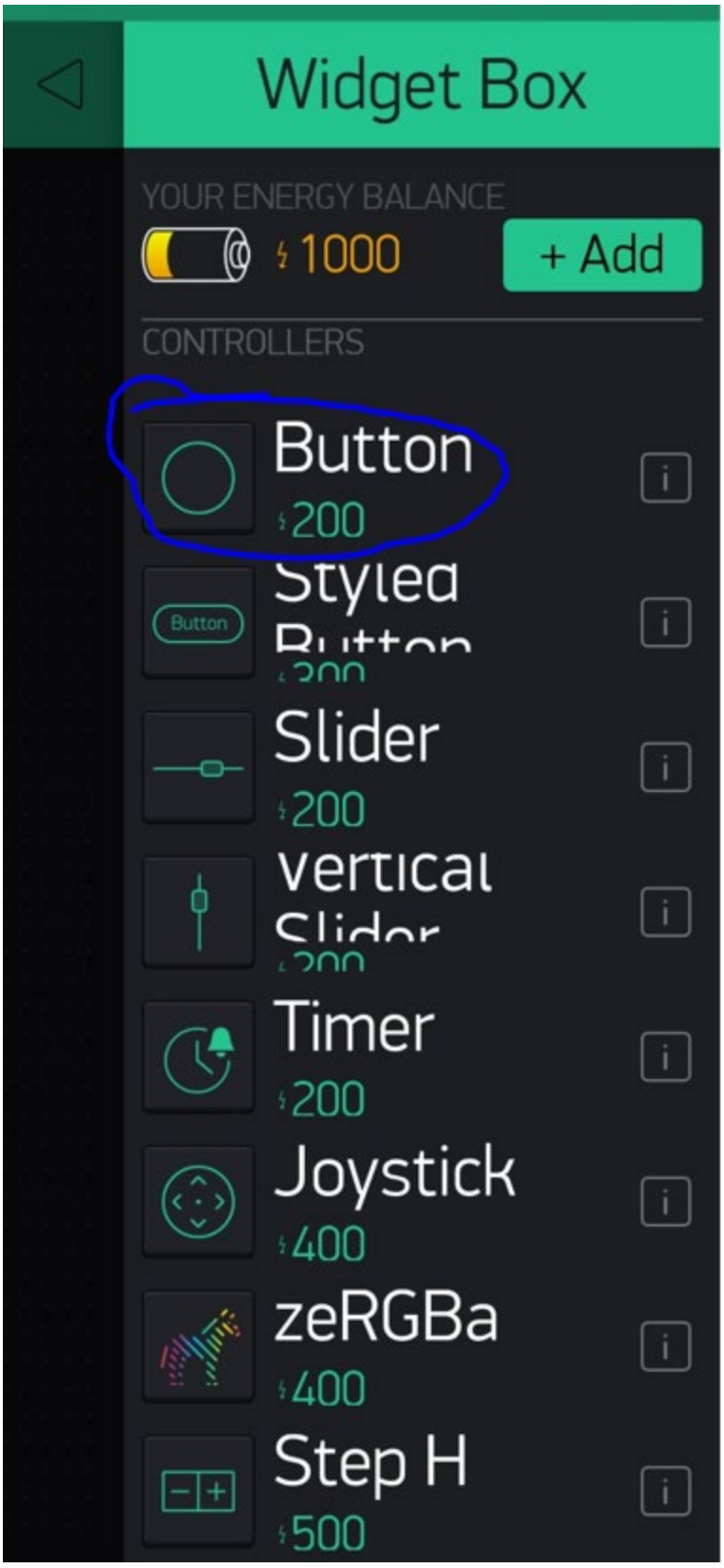


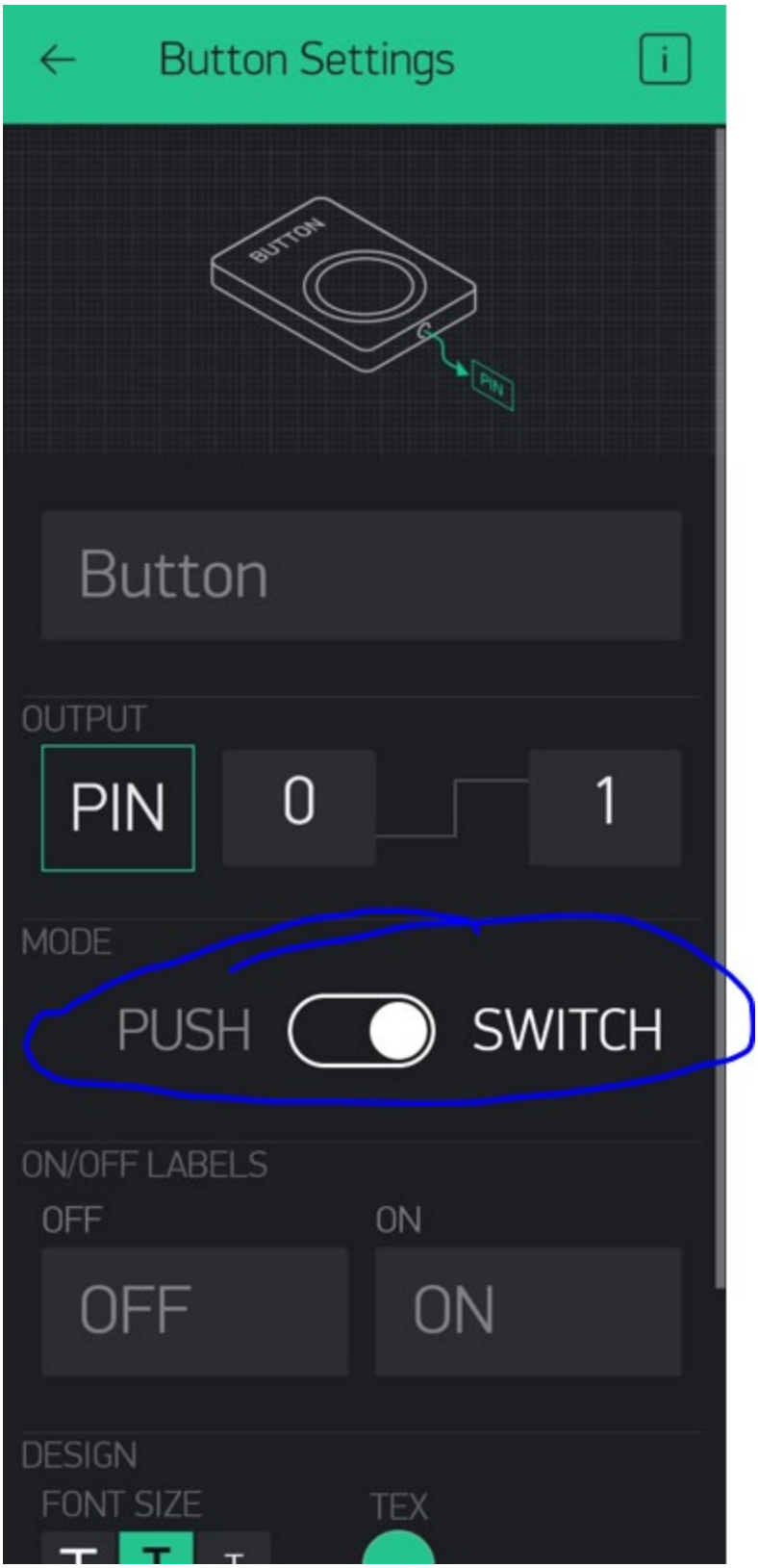
Now, Install “Blynk” app in your phone and then

1. Make **new project by selecting Device: “ESP32 Dev board” and the connection type: Bluetooth**
2. the Authorization code you will receive in your email id and put your authorization code inside the code below

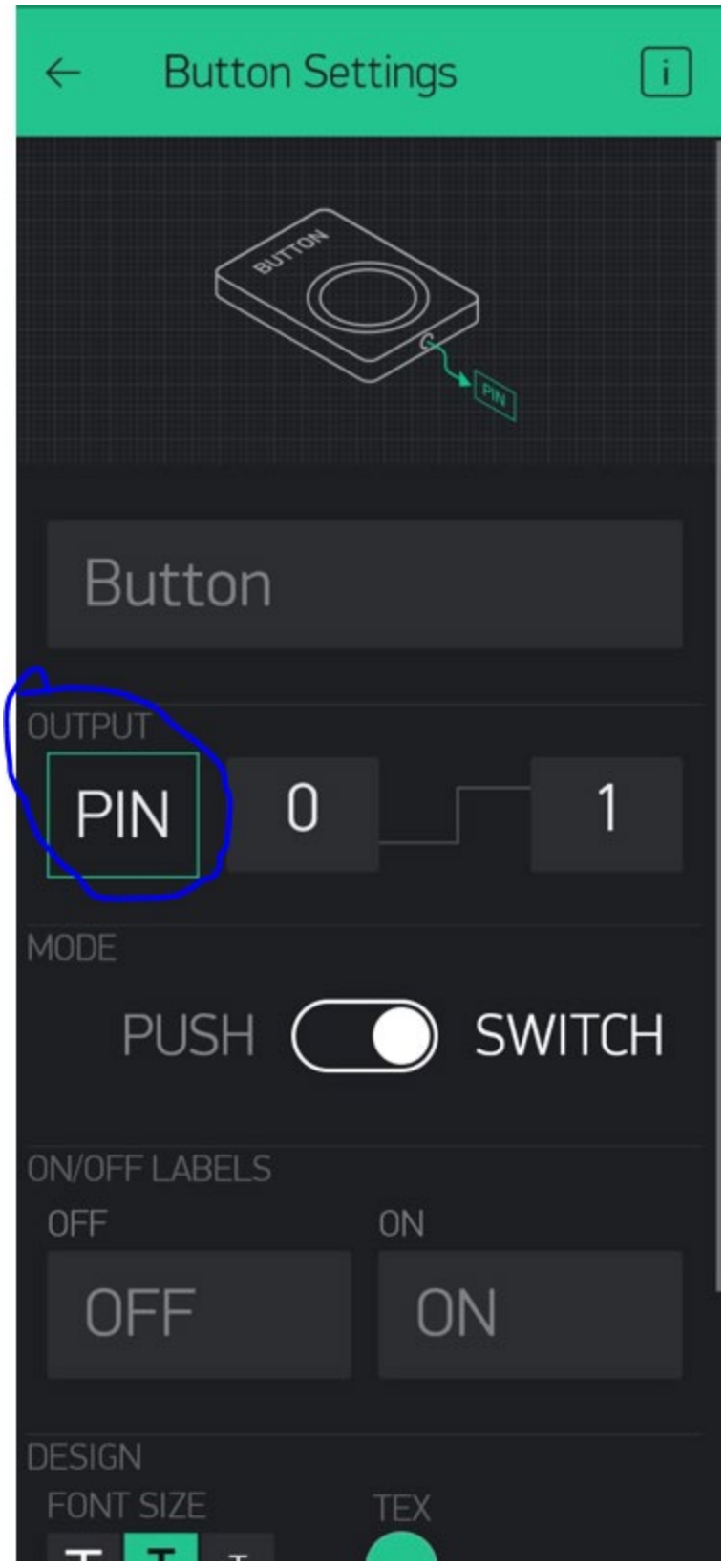
char auth[] = "**YourAuthToken**";

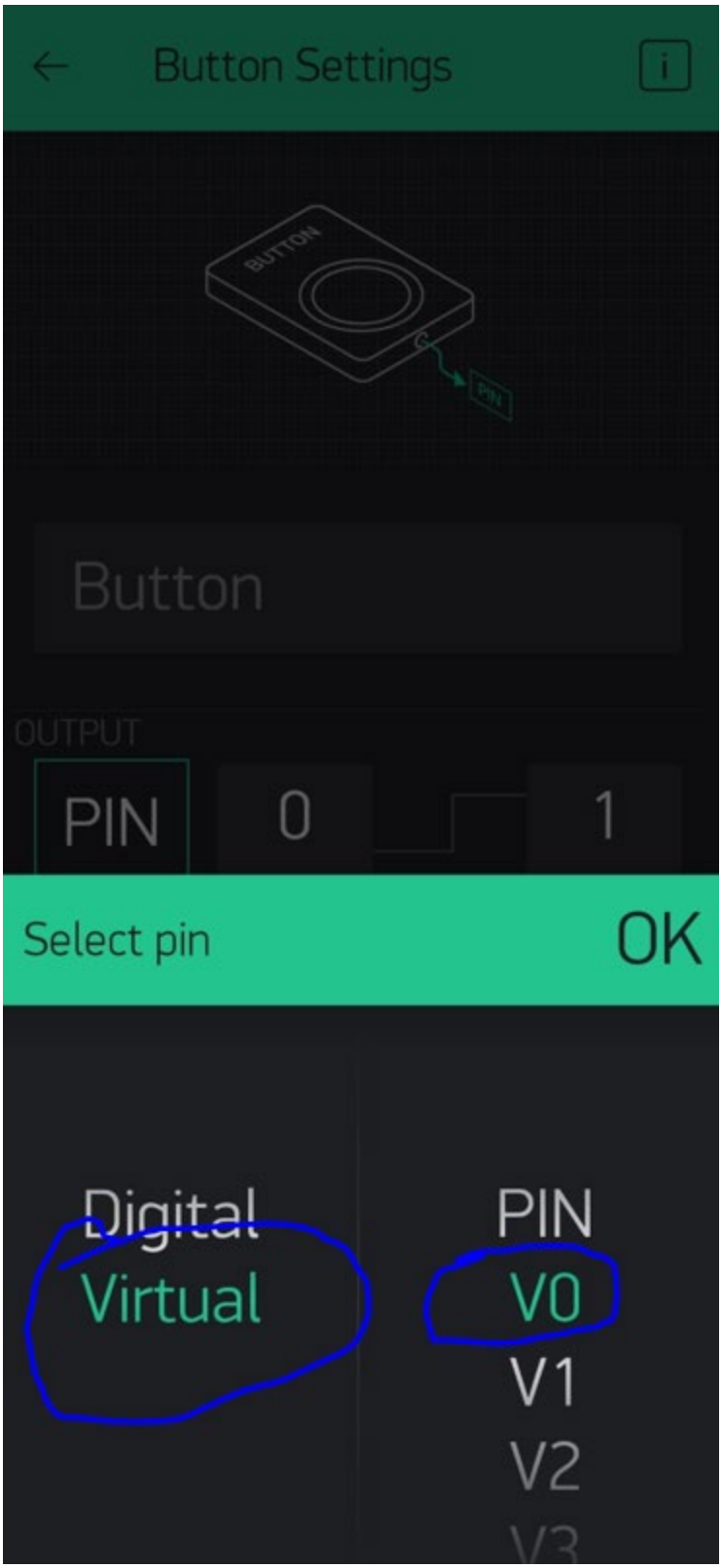
3. Please upload the code “ESP32_BLE” to board.
4. **Now in mobile app, click on “+” icon and scroll down and select Bluetooth as shown in the video and connect to ESP32 device (Name must be “Blynk”-because we have set it in code.)** **https://www.youtube.com/watch?v=pcBgKLzdXdc**
5. **After Bluetooth widget is being selected, click on “+” icon and also select “Button” , put it in “Switch” mode**


Widget Box
YOUR ENERGY BALANCE
1000
+ Add
CONTROLLERS
Button
200
Button
Slider
200
Timer
200
Joystick
400
zeRGBa
400
Step H
500



6. **Click on “PIN” and select “Virtual Pin” and “V0”**


Button Settings
BUTTON
PIN
Button
OUTPUT
PIN
0
1
MODE
PUSH
SWITCH
ON/OFF LABELS
OFF
ON
OFF
ON
DESIGN
FONT SIZE
TEX


Button Settings
BUTTON
Button
OUTPUT
PIN
0
1
Select pin
OK
Digital
Virtual
PIN
V0
V1
V2

7. **Click on “OK” and then run the application and connect to the Bluetooth device named “Blynk”**

Testing Procedure:

1. Upload the code and connect the device using Blynk
2. To test the Automation part of the code:
    - **“Switch” present on the Truck must be “Not pressed” and on the Blynk app “Not pressed”(Showing OFF on widget)**
    - **Use lever to control the direction and the speed**
    - **To test the distance sensors are working properly or not, please bring something infront of the sensor(less than 1.5 meters) and check if the motors are stopped rotating in that specific direction(direction of the sensor)**
    - **Please test that if something in front of front sensor that motors are not moving forward but still going in reverse direction if you are putting lever in reverse mode(same for the back sensor)**
    - **Test the “Main Switch” is working properly or not**
    - **If the “Main Switch” is not pressed that means supply is provided to motors and they are running as per the lever input and if it is pressed supply to the motors stops and it should stop rotating**
    - **Please test the same functionality on Blynk application, if the “Switch” on the Blynk app is showing “OFF”(not pressed) then motors are supplied power and if that switch is pressed “ON” condition then supply to motors is stopped and they stop rotating**
    - **Any of the two switch is pressed then supply to motors are cut and they should not rotate**