BOOLEAN LOGIC IMPLEMENTATION BY USING ARDUINO WITH AVR GCC

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Contents

1 Abstract

This manual shows Realisation of boolean expression from the given k-map by using arduino with AVR GCC

2 Components

Component	Value	Quantity
Arduino	UNO	1
Bread board	-	1
Jumper wires	M-M	8
Led	-	1
Resistor	150ohms	1

3 BooleanEquation

By using boolean equation we write our code in assembly we get the boolean equation as follows
Y = QR'+S

4 Hardware Connections

1.in arduino we are having pins B,D,C.here we are using port D pin 2 is taken as output pin.

2.port B pins 10, 11, 12 pins are taken as a inputs. portB pins 10,11,12 pins are connected vcc or gnd in breadboard as per truth table

5 Procedure

1) Connect 5v of the Arduino to the top red of the bread board ang GND to the bottom green

2) Connect d2 pin in the arduino to connect to one LED+

3) Connect arduino b10 pin to the gnd or vcc according to inputs

4) Connect arduino b11 pin to the gnd or vcc according to inputs

5) Connect arduino b12 pin to the gnd or vcc according to inputs

6) Connect one LED+ to one end of the resisitor and other end of resistor to vcc and gnd the other terminal of LED

7) Change the b10 b11 b12 pins in the ar-

duino from vcc to gnd as per truthtable and observe the outputs

6   Software

Execute the following code using the below provided link.

https://github.com/satthish-devaragatla