

BOOLEAN LOGIC IMPLEMENTATION BY USING ARDUINO WITH AVR ASSEMBLY

GADDAM LIKHITHESHWAR

glikhitheshwar@gmail.com

FWC220099 IITH-Future Wireless Communications Assignment-1

Contents

- 1 Abstract
- 2 Components
- 3 BooleanEquation
- 4 Hardware Connections
- 5 Boolean Equation
- 6 Truth table for given Kmap
- 7 Procedure
- 8 Software

1 Abstract

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

2 Components

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

3 BooleanEquation

- 1 By using boolean equation we write our code in assembly we get the boolean equation as follows

1 $Y = QR' + S$

4 Hardware Connections

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

5 Procedure

- 1) Connect 5v of the Arduino to the top red of the bread board and 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 resistor 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>