POS Expression for Paper 2013 Question 6)c

Thoutu Rahul Raj

September 7, 2022

Contents

Abstract

This manual shows how to use Arduino with LED to represent SOP expression for the function" X "shown in the below truth table.

A	B	C	X
0	0	0	1
0	0	1	1
0	1	0	0
0	1	1	0
1	0	0	0
1	0	1	1
1	1	0	0
1	1	1	1

1 Components

Components	Value	Quantity
Arduino	UNO	1
LED	-	1
Jumper wires	M-M	3
Breadboard		1

2 Hardware

Make connections between the Arduino and LED using Breadboard.

3 Software

Now make the connections as per Table and execute the following program after downloading.

LED	pin-1	pin-2
Arduino	2	GND

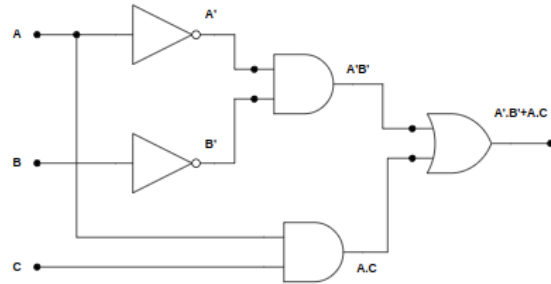U, V, W are the inputs and LED is the output.Using boolean logic,

$$X = (!A\&\&!B)||(A\&\&C) \tag{1}$$

Figure 1: logic diagram for A'.B'+A.B