Abhinav - K

220972009

Inference

In this experiment with the help of Energia we learnt how to program TIVAC launchpad and its working, Also how to program using Energia for the different given condition.

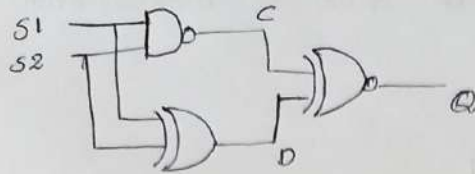Example: 1 - Blinking an led is executed.

Example: 2 - Code of turning on & off of an LED using pushbutton is executed.

Exersice Question 1: Code for performing logical operations AND, OR, XOR, XNOR is programmed as executed taking pushbuttons as the inputs for the gates.

Exersice Question 2: Code for implimenting a half adder was written and executed. In this program 2 leds are used. One is for sum and other one is for carry, The led binks as given in below truth table. [Note S1:- Pushbutton1, S2:- Pushbutton 2]

| S1 | S2 | Sum | Carry |
|----|----|-----|-------|
| 0  | 0  | 0   | 0     |
| 0  | 1  | 1   | 0     |
| 1  | 0  | 1   | 0     |
| 1  | 1  | 0   | 1     |

Exercise Question 3:



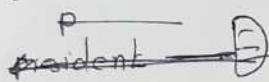| S1 | S2 | C | D | Q |
|----|----|---|---|---|
| 0 | 0 | 1 | 0 | 0 |
| 0 | 1 | 1 | 1 | 1 |
| 1 | 0 | 1 | 1 | 1 |
| 1 | 1 | 0 | 0 | 1 |

The solution for the above logic is formed and program is written and executed.

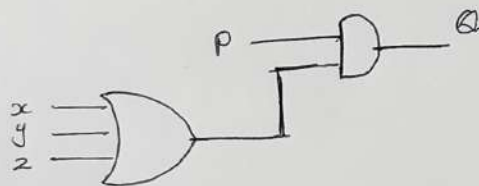→ The code used for execution is of an OR gate logic.

Exercise Question 5:

According to the question below shown logic gates is executed using program & output is varified.
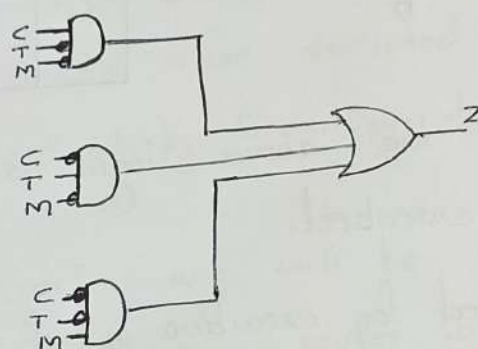


President - P

x, y, z - counsil members



| P | x | y | z | Q |
|---|---|---|---|---|
| 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 1 | 0 |
| 0 | 0 | 1 | 0 | 0 |
| 0 | 0 | 1 | 1 | 0 |
| 0 | 1 | 0 | 0 | 0 |
| 0 | 1 | 0 | 1 | 0 |
| 0 | 1 | 1 | 0 | 0 |
| 0 | 1 | 1 | 1 | 0 |
| 1 | 0 | 0 | 0 | 0 |
| 1 | 0 | 0 | 1 | 1 |
| 1 | 0 | 1 | 0 | 1 |
| 1 | 0 | 1 | 1 | 1 |
| 1 | 1 | 0 | 0 | 1 |
| 1 | 1 | 0 | 1 | 1 |
| 1 | 1 | 1 | 0 | 1 |
| 1 | 1 | 1 | 1 | 1 |

Exersice 4:

In this problem atmost one of the option is choosed from the given.

Expression $\bar{C}\bar{T}M + \bar{C}T\bar{M} + C\bar{T}\bar{M}$

| C | T | M | Z |
|---|---|---|---|
| 0 | 0 | 0 | 0 |
| 0 | 0 | 1 | 1 |
| 0 | 1 | 0 | 1 |
| 0 | 1 | 1 | 0 |
| 1 | 0 | 0 | 1 |
| 1 | 0 | 1 | 0 |
| 1 | 1 | 0 | 0 |
| 1 | 1 | 1 | 0 |



The program is written and executed accourding to the above truth table.