

Algebra booleana

2° Practica

Integrants:

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| Nombre | Expediente |
| Zuñiga Fragoso Diego Joel | 317684 |

Subject: Sistemas digitales de lógica reconfigurable I

Teacher: Marcos Romo Aviles

1. **Objective:**

The objective of this practice is to learn and implement methods to derive and simplify Boolean functions from a truth table using maxterms and minterms. Through this practice, students will develop skills to derive Boolean functions and apply Boolean algebra properties to reduce them to their minimal expression, thereby enhancing their understanding and handling of fundamental concepts in digital logic.

**Methodology:**

1. **Development:**
   1. **Code**

Next, I will provide the code with explanations for each part that composes it:

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| library IEEE;  use IEEE.std\_logic\_1164.all;  -- Entidad donde declaramos entradas y salidas  entity P2 is  port  (  A: in std\_logic;  B: in std\_logic;  C: in std\_logic;  S1: out std\_logic;  S2: out std\_logic;  S3: out std\_logic  );  end P2;  -- Arquitectura donde se hacen las operaciones o relaciones booleanas  Architecture PArch2 of P2 is  begin  S1 <= not C or (A and B and C); -- 1er ejercicio  S2 <= A and C; -- 2do ejercicio  S3 <= ((not B and C) or B) and A; -- 3er ejercicio  end PArch2; |
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* 1. **Simulation**

1. **Conclusion**

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