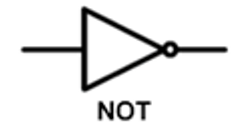
**Logic gates and circuits analysis**

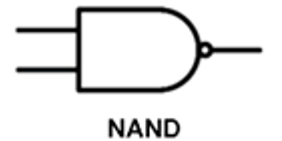
**Exercise 1 -** Fill the truth tables and simulate using DEEDS in order to verify the truth tables

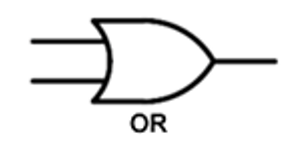
 Immagine che contiene testo

Descrizione generata automaticamente Immagine che contiene piazza

Descrizione generata automaticamenteImmagine che contiene shoji, edificio

Descrizione generata automaticamente

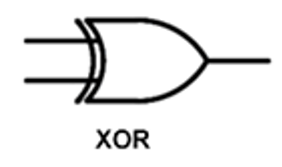
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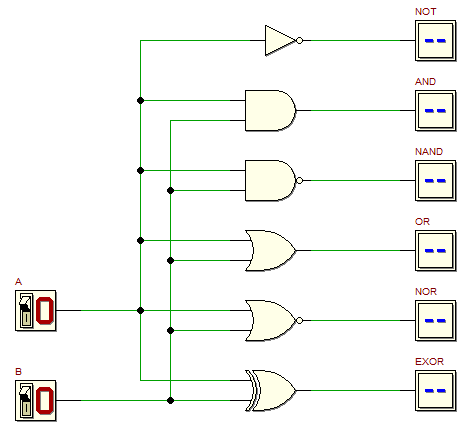
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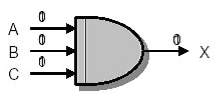
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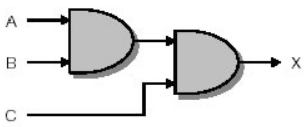
**Exercise 2** - Fill the truth table and the time diagram; then design the circuit using DEEDS to check the correctness of your answers

Immagine che contiene testo, shoji, edificio, cruciverba

Descrizione generata automaticamente



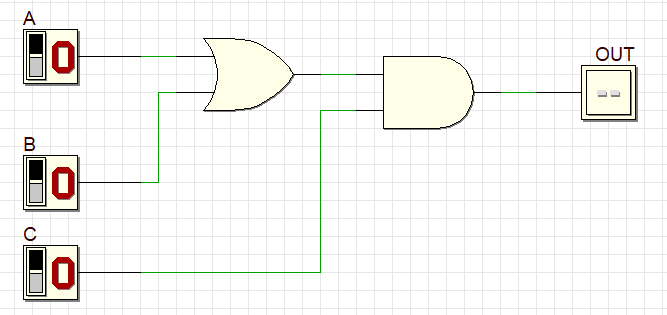
**Exercise 3** - Fill the truth table and the time diagram; then design the circuit using DEEDS to check the correctness of your answers

 Immagine che contiene testo, shoji, edificio, cruciverba

Descrizione generata automaticamente



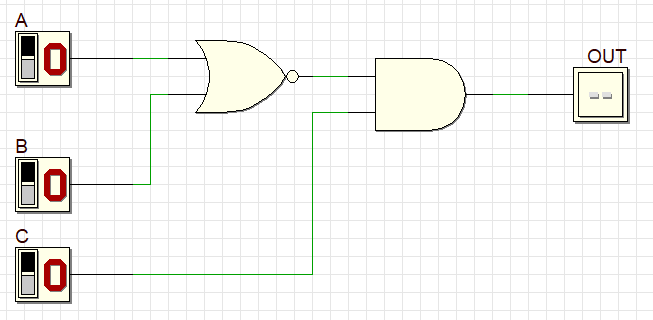
**Exercise 4** - Fill the truth table and the time diagram; then design the circuit using DEEDS to check the correctness of your answers

 Immagine che contiene testo, shoji, edificio, cruciverba

Descrizione generata automaticamente



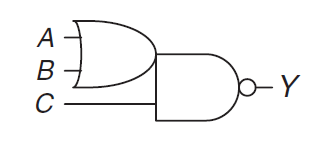
**Exercise 5** - Fill the truth table and the time diagram; then design the circuit using DEEDS to check the correctness of your answers

 Immagine che contiene testo, shoji, edificio, cruciverba

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**Exercise 6** - Fill the truth table and the time diagram; then design the circuit using DEEDS to check the correctness of your answers. This is a three-input OR-AND-INVERT gate, it produces FALSE if C is TRUE and A or B is TRU, otherwise it produces TRUE.

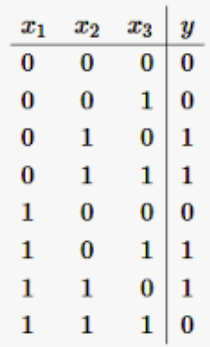
 Immagine che contiene testo, shoji, edificio, cruciverba

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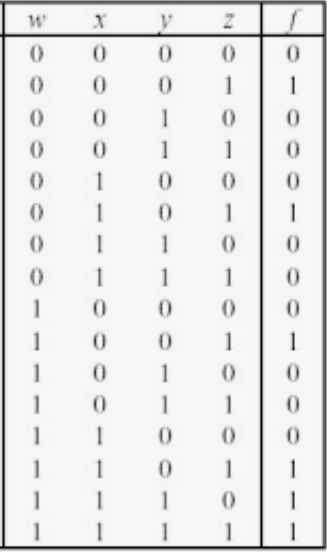
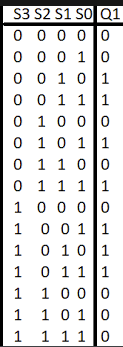


**Exercise 7** - Write a boolean equation in sum-of-products canonical form for each of the truth tables, then draw the combinatorial circuit and simulate it on Deeds to check the correctness

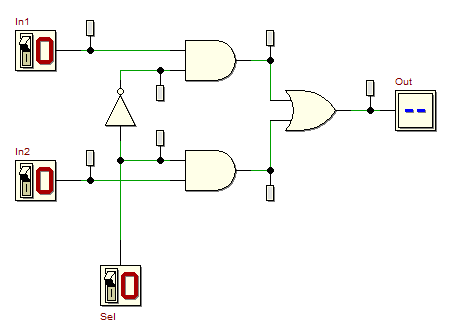
a)**Immagine che contiene testo, elettronico, bianco

Descrizione generata automaticamente** b) c) Immagine che contiene testo, elettronico

Descrizione generata automaticamente

d) e) 

**Exercise 8** - Fill the truth table and the time diagram; then write the boolean equation in sum-of-product or product-of-sum canonical form; finally design the circuit using DEEDS to check the correctness of your answers

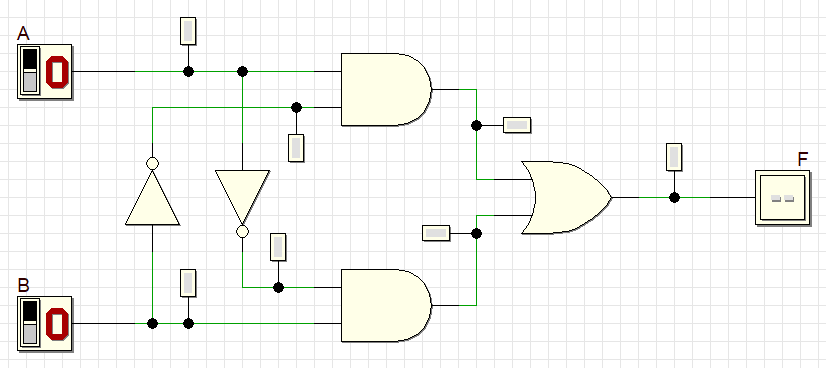
 Immagine che contiene testo, shoji, edificio, cruciverba

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Immagine che contiene tavolo

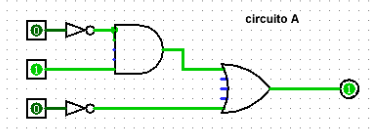
Descrizione generata automaticamente

**Exercise 9** - Fill the truth table and the time diagram; then write the boolean equation in sum-of-product or product-of-sum canonical form; finally design the circuit using DEEDS to check the correctness of your answers

 Immagine che contiene shoji, edificio

Descrizione generata automaticamente

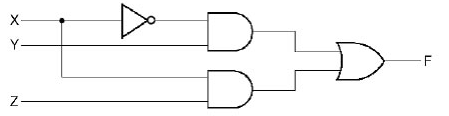
**Exercise 10** - Fill the truth table and the time diagram; then write the boolean equation in sum-of-product or product-of-sum canonical form; finally design the circuit using DEEDS to check the correctness of your answers

Immagine che contiene testo, shoji, edificio, cruciverba

Descrizione generata automaticamente



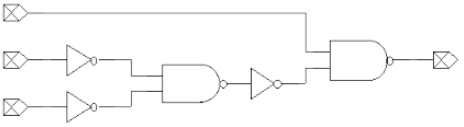
**Exercise 11** - Fill the truth table and the time diagram; then write the boolean equation in sum-of-product or product-of-sum canonical form; finally design the circuit using DEEDS to check the correctness of your answers

 Immagine che contiene testo, shoji, edificio, cruciverba

Descrizione generata automaticamente



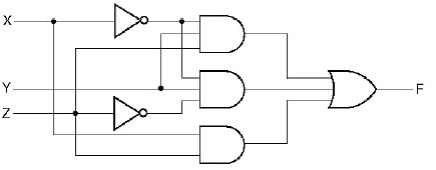
**Exercise 12** - Fill the truth table and the time diagram; then write the boolean equation in sum-of-product or product-of-sum canonical form; finally design the circuit using DEEDS to check the correctness of your answers

 Immagine che contiene testo, shoji, edificio, cruciverba

Descrizione generata automaticamente



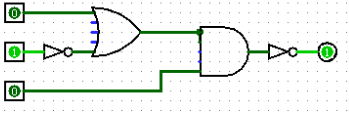
**Exercise 13** - Fill the truth table and the time diagram; then write the boolean equation in sum-of-product or product-of-sum canonical form; finally design the circuit using DEEDS to check the correctness of your answers

 Immagine che contiene testo, shoji, edificio, cruciverba

Descrizione generata automaticamente



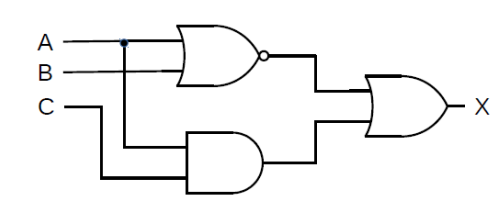
**Exercise 14** - Fill the truth table and the time diagram; then write the boolean equation in sum-of-product or product-of-sum canonical form; finally design the circuit using DEEDS to check the correctness of your answers

 Immagine che contiene testo, shoji, edificio, cruciverba

Descrizione generata automaticamente



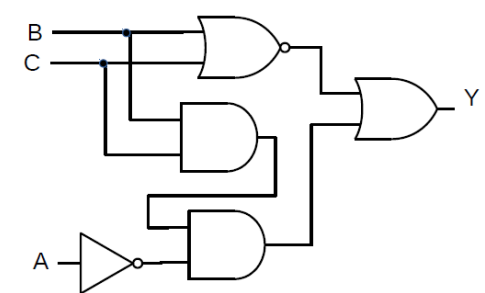
**Exercise 15** - Fill the truth table and the time diagram; then write the boolean equation in sum-of-product or product-of-sum canonical form; finally design the circuit using DEEDS to check the correctness of your answers

 Immagine che contiene testo, shoji, edificio, cruciverba

Descrizione generata automaticamente



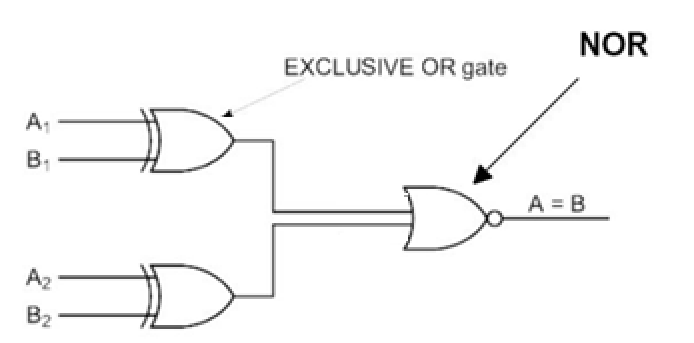
**Exercise 16** - Fill the truth table and the time diagram; then write the boolean equation in sum-of-product or product-of-sum canonical form; finally design the circuit using DEEDS to check the correctness of your answers

 Immagine che contiene testo, shoji, edificio, cruciverba

Descrizione generata automaticamente

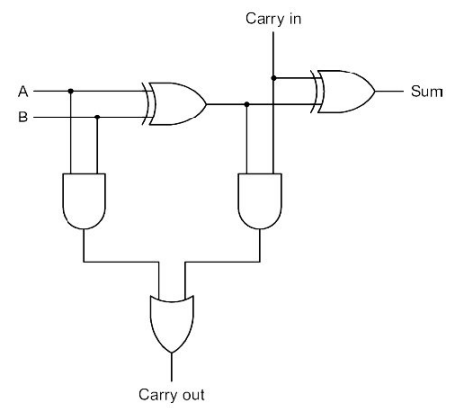


**Exercise 17** - Fill the truth table; then write the boolean equation in sum-of-product or product-of-sum canonical form; finally design the circuit using DEEDS to check the correctness of your answers. This is a 2-BIT COMPARATOR, it checks whether the value A2A1 is equal to B2B1

Immagine che contiene testo, shoji, edificio

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**Exercise 18** - Fill the truth table and the time diagram; then write the boolean equation in sum-of-product or product-of-sum canonical form; finally design the circuit using DEEDS to check the correctness of your answers. This is a 1-BIT SUMMATOR, it sums bit A, bit B and the input carry; it generates the sum and the carry output

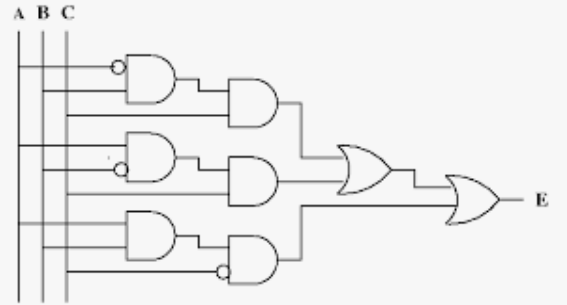
 Immagine che contiene testo, shoji, edificio

Descrizione generata automaticamente

Immagine che contiene tavolo

Descrizione generata automaticamente

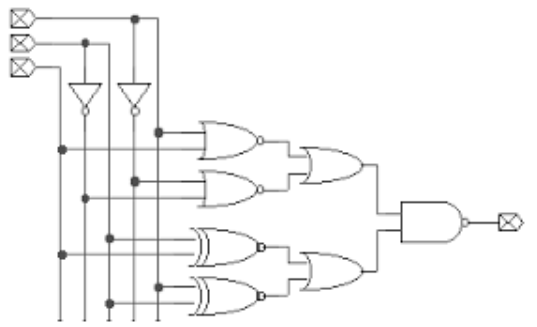
**Exercise 19** - Fill the truth table and the time diagram; then write the boolean equation in sum-of-product or product-of-sum canonical form; finally design the circuit using DEEDS to check the correctness of your answers.

 Immagine che contiene testo, shoji, edificio, cruciverba

Descrizione generata automaticamente



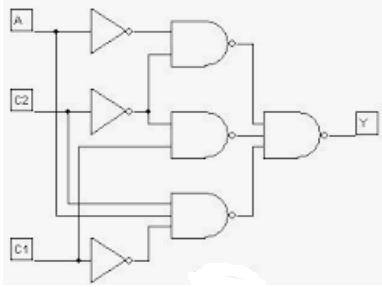
**Exercise 20** - Fill the truth table and the time diagram; then write the boolean equation in sum-of-product or product-of-sum canonical form; finally design the circuit using DEEDS to check the correctness of your answers.

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**Exercise 21** - Fill the truth table and the time diagram; then write the boolean equation in sum-of-product or product-of-sum canonical form; finally design the circuit using DEEDS to check the correctness of your answers.

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