

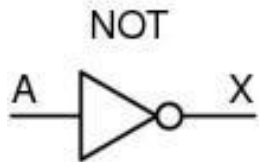


**UNIVERSIDADE DO ESTADO DE MINAS GERAIS**

**Docente: Rildo Afonso de Almeida**

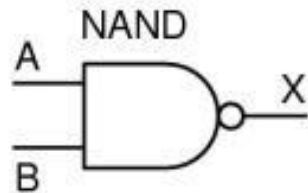
**Laboratório de Circuitos Lógicos**

# PORTAS LÓGICAS



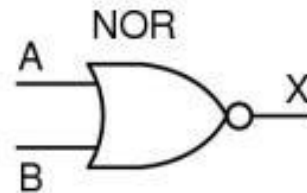
A	X
0	1
1	0

(a)



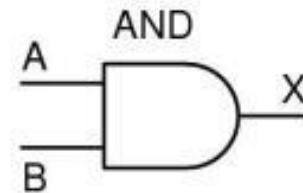
A	B	X
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1	1	0

(b)



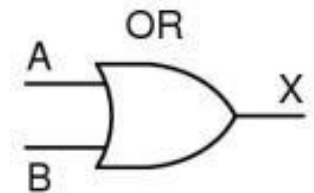
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1	1	0

(c)



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

(d)



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

(e)

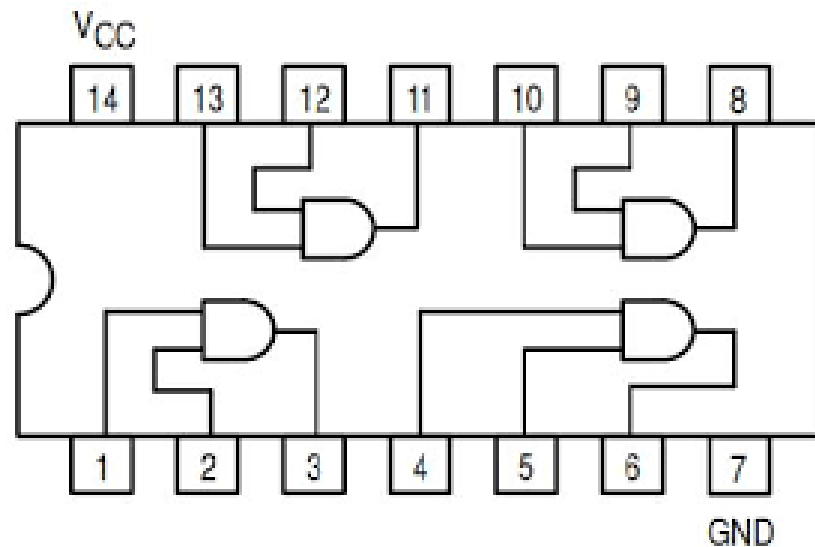
# PORTAS LÓGICAS

## AND



# PORTAS LÓGICAS

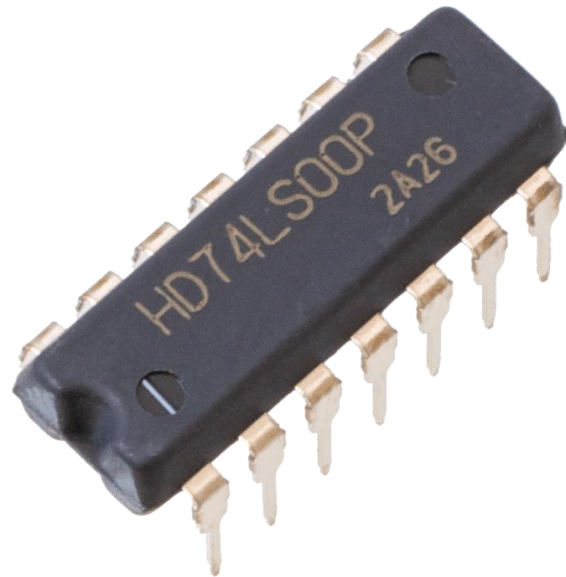
## AND



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

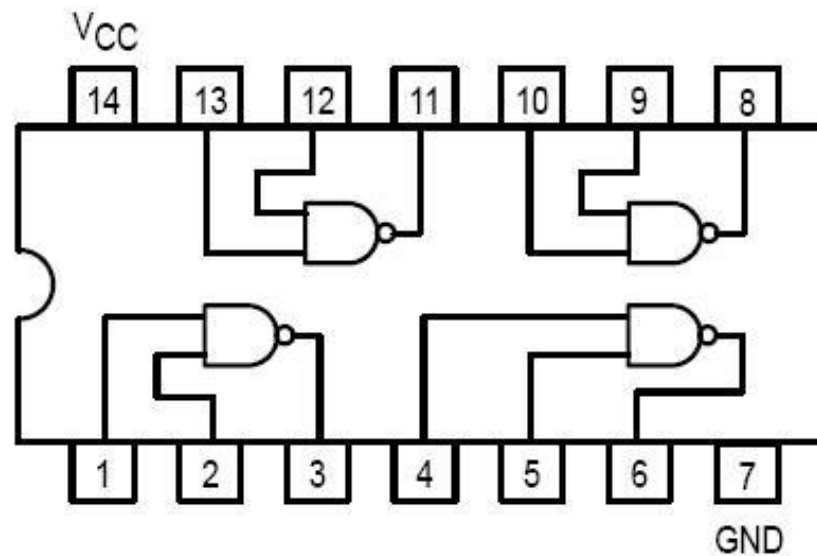
# PORTAS LÓGICAS

## NAND



# PORTAS LÓGICAS

## NAND



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

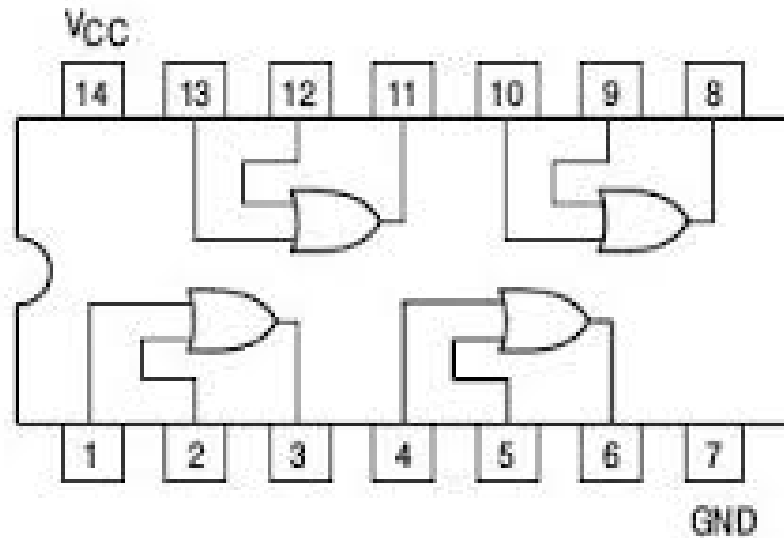
# PORTAS LÓGICAS

## OR



# PORTAS LÓGICAS

## OR

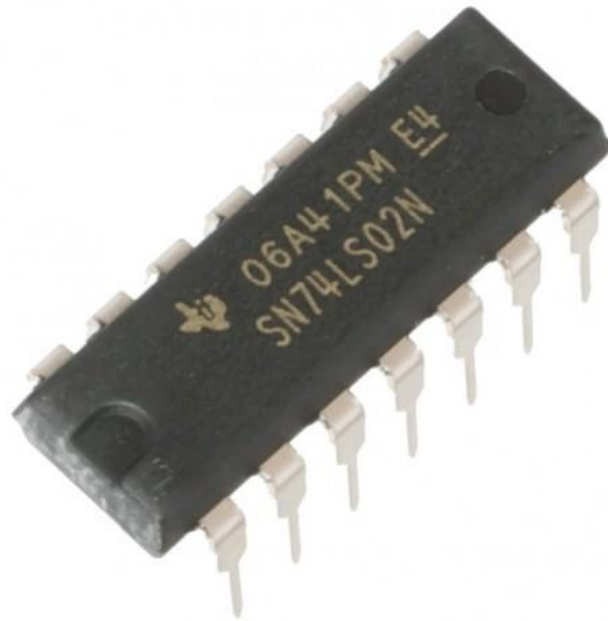


A	B	X
0	0	0
0	1	1
1	0	1
1	1	1



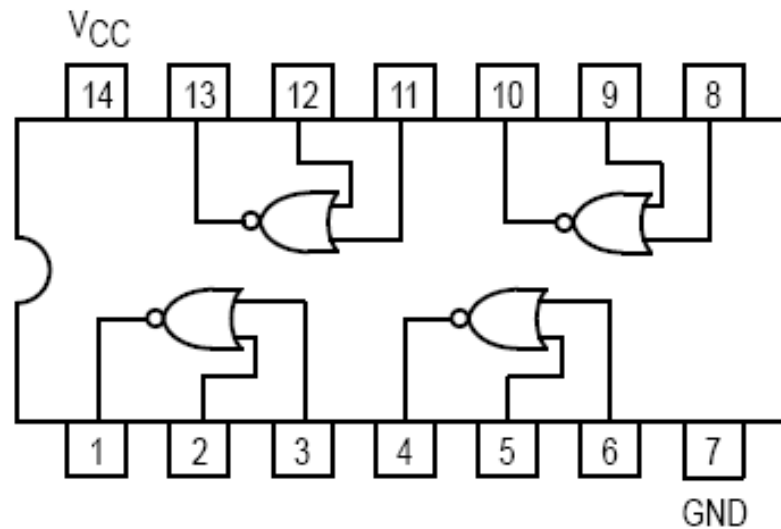
# PORTAS LÓGICAS

## NOR



# PORTAS LÓGICAS

## NOR



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

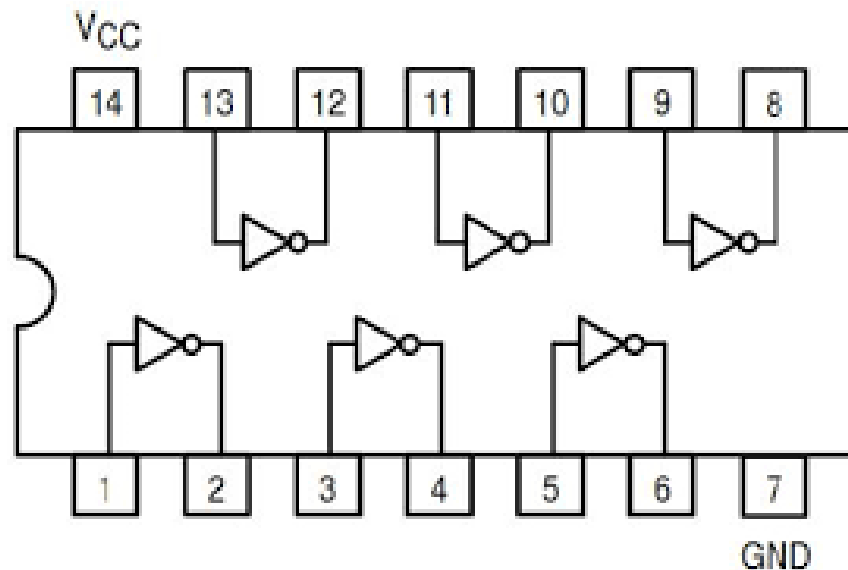
# PORTAS LÓGICAS

## NOT



# PORTAS LÓGICAS

## NOT



A	X
0	1
1	0

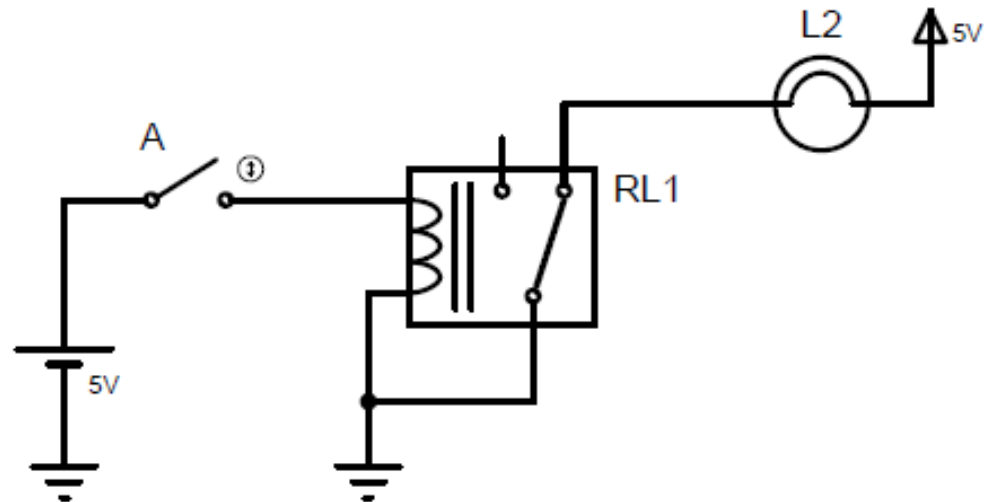


# PORTAS LÓGICAS

## Analogias de Portas Lógicas

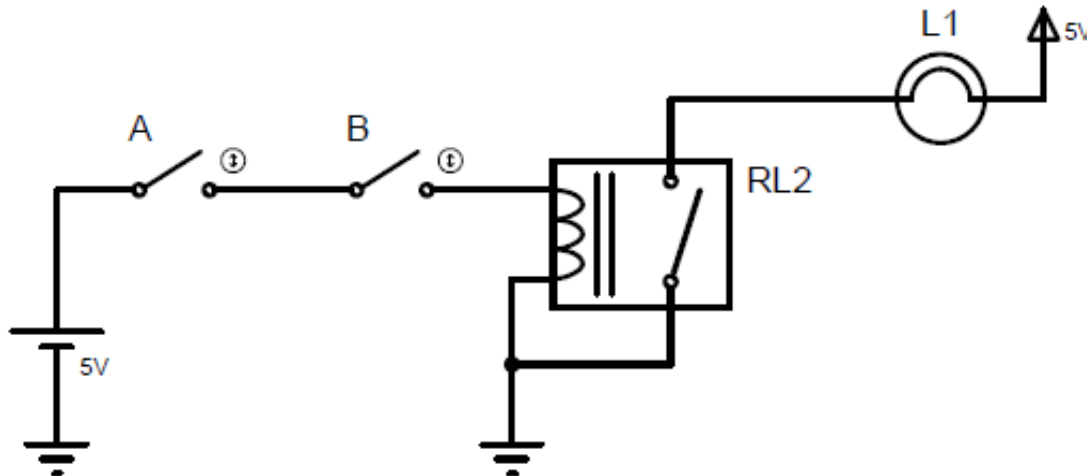
# PORTAS LÓGICAS

## Lógica NOT - NÃO



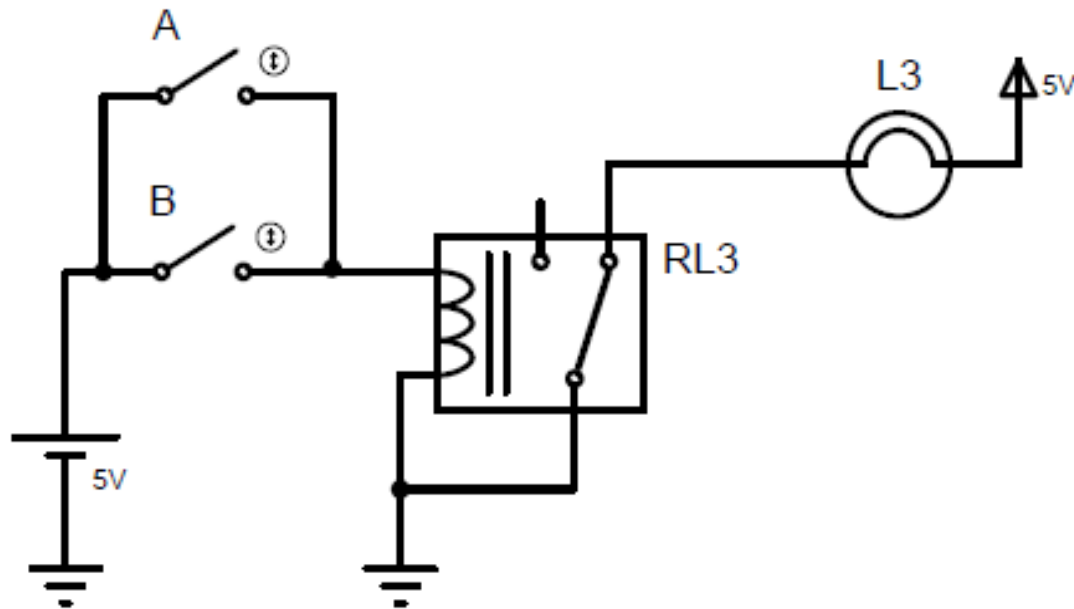
# PORTAS LÓGICAS

## Lógica AND - E



# PORTAS LÓGICAS

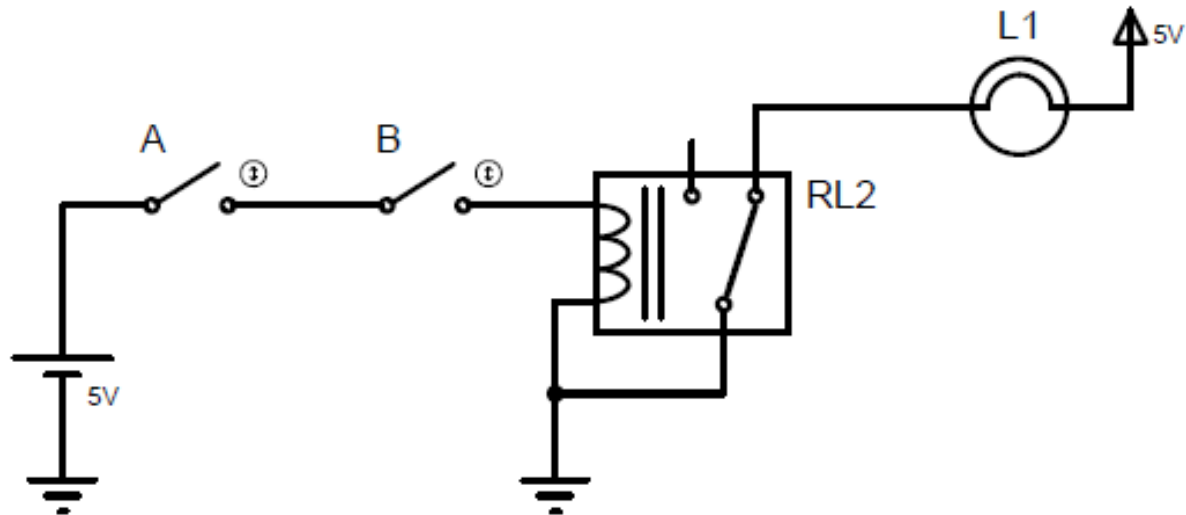
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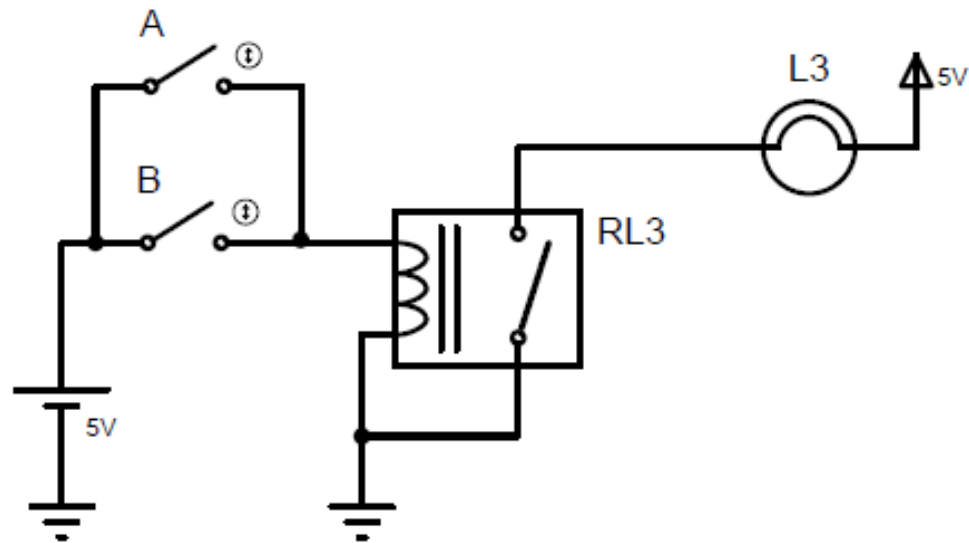
# PORTAS LÓGICAS

## Lógica NAND - NÃO E



# PORTAS LÓGICAS

## Lógica OR - OU





## Bibliografia Básica

- 1-TOCCI, R. J.; Widmer, N. S.; Moss, G. L. **Sistemas digitais: princípios e aplicações**. 12<sup>a</sup> ed. Pearson, São Paulo, 2019.
- 2-HAUPT, A.; Dachi, E. **Eletrônica digital**. Editora Blucher, São Paulo, 2016.
- 3-IDOETA, I. V.;CAPUANO, F. G. **Elementos de eletrônica digital**. 34a Ed. Érica, São Paulo, 2002.



## Bibliografia Complementar

- 1-TAUB, H. **Circuitos digitais e microprocessadores**. McGraw Hill do Brasil, São Paulo, 1984.
- 2-BIGNEEL, J. W.;DONOVAN, R. L. **Eletrônica digital**. Makron Books, 2 V, São Paulo, 1988.
- 3-MALVINO, A. P.;LEACH, D. P. **Eletrônica digital – princípio e aplicações**. McGraw Hill, 1 V, São Paulo, 1988.
- 4-MELO, M. **Eletrônica digital**. São Paulo: Makron Books, 1993.
- 5-MENDONCA, A. **Eletrônica digital: curso prático e exercícios**. Rio de Janeiro: MZ, 2004.