Elementos de Sistemas

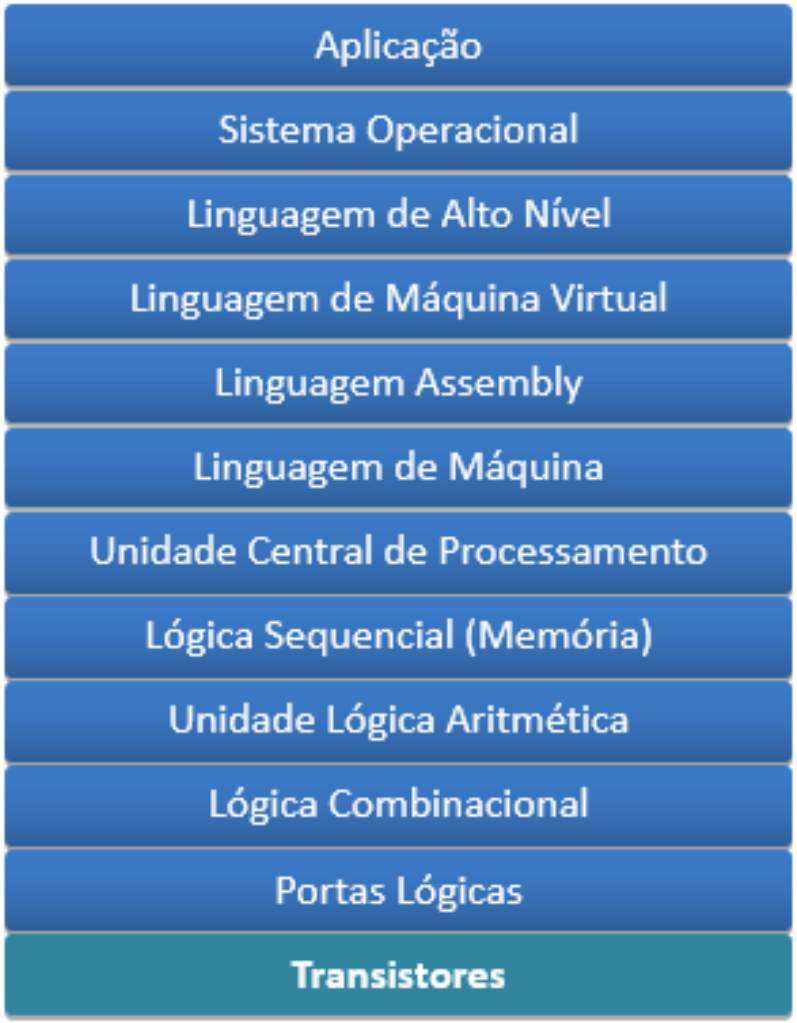
Transistores e CIs

Renan Trevisoli

Engenharia da Computação

21/08/2024

Camadas de abstração



Insper

Válvulas

[1] By Stefan Riepl (Quark48) - Self-photographed, CC BY-SA 2.0 de, https://commons.wikimedia.org/w/index.php?curid=14682022

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Válvulas

[1] By Stefan Riepl (Quark48) - Self-photographed, CC BY-SA 2.0 de, https://commons.wikimedia.org/w/index.php?curid=14682022

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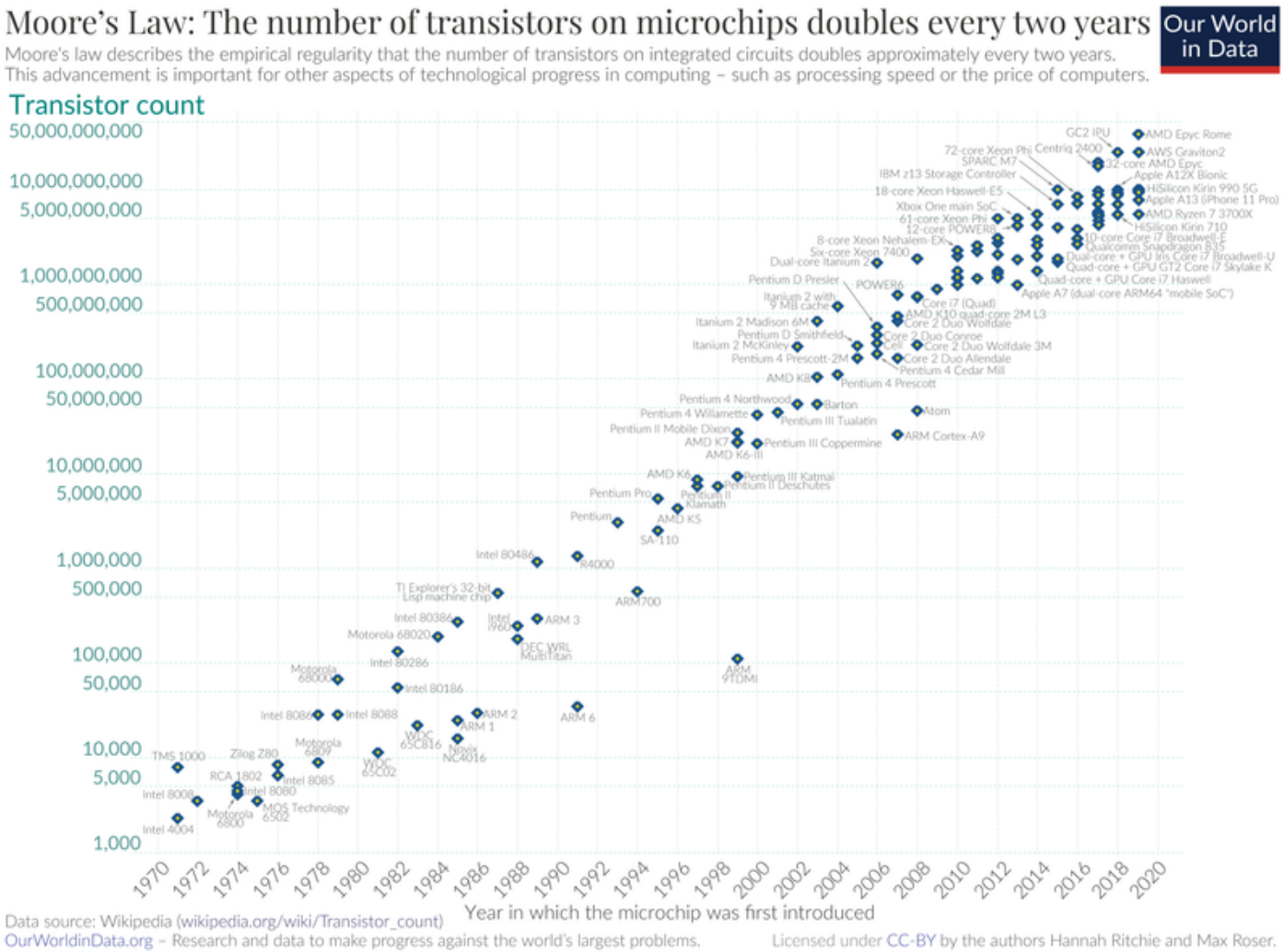
Evolução



[1] https://en.wikipedia.org/wiki/Transistor_count

Transistores

- Vários tipos de transistores
  - BJT
  - MOS
  -
- Várias formas de realizar
  - RTL
  - TTL
  - CMOS
  -

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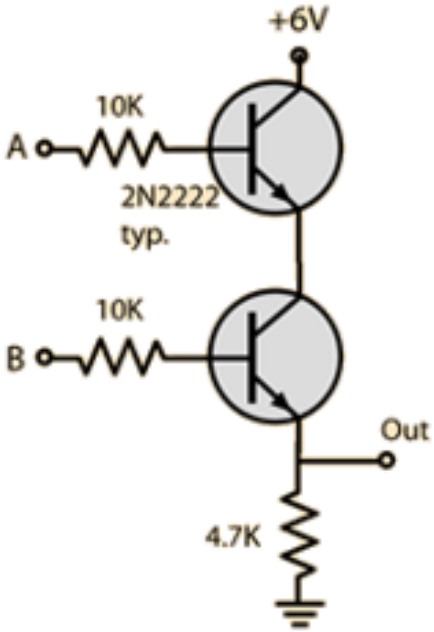
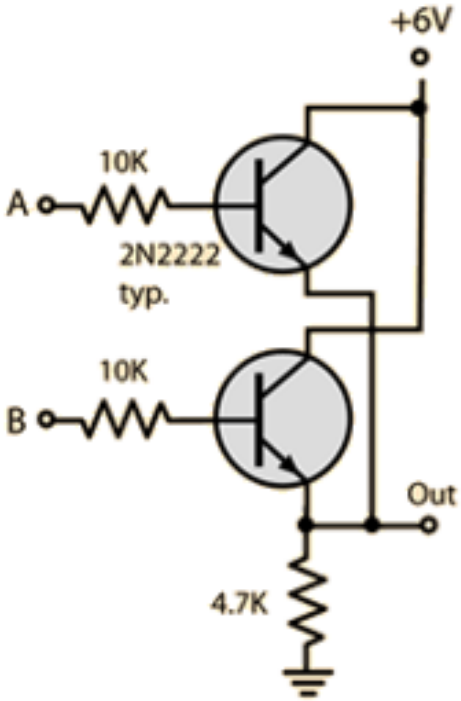
RTL



AND



OR

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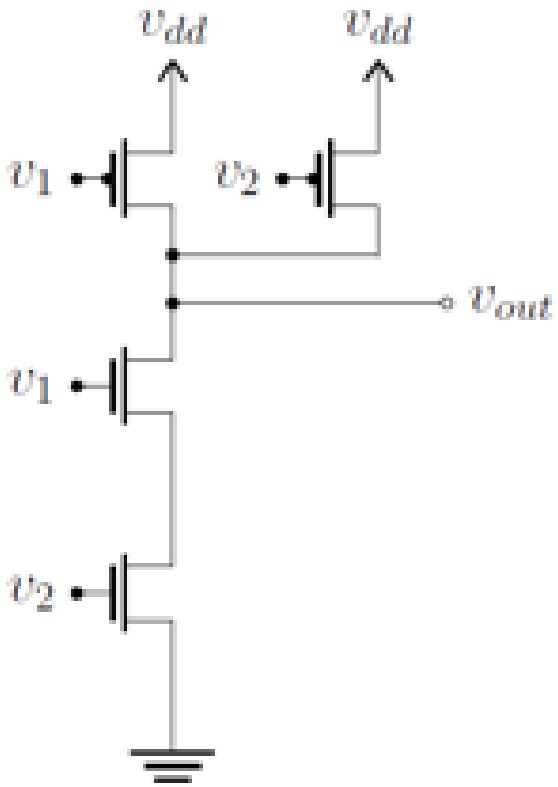
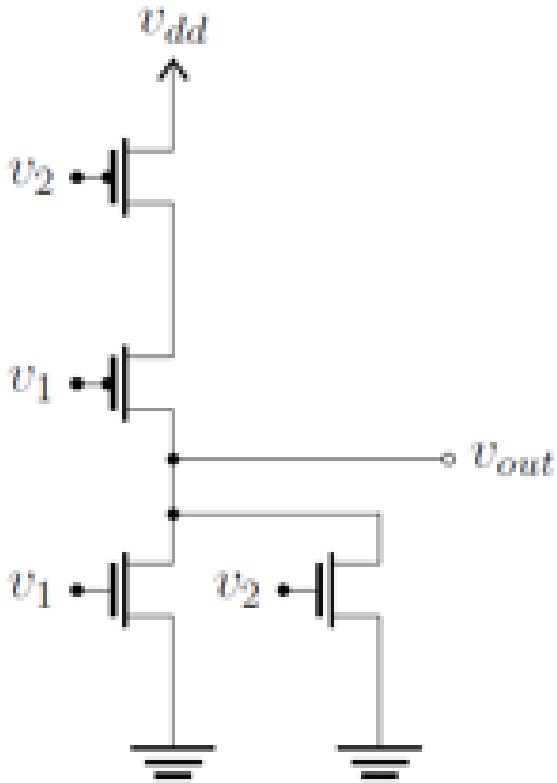
CMOS



NAND



NOR

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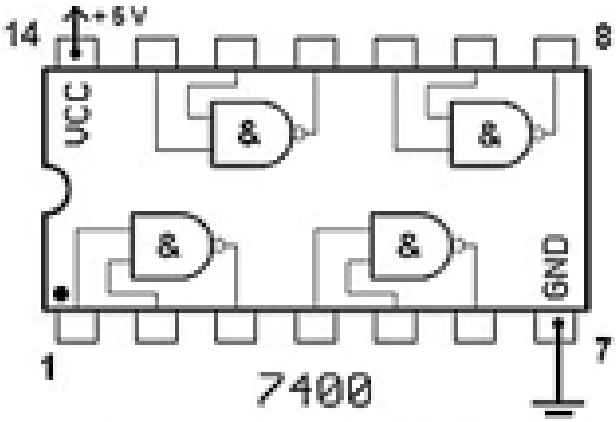
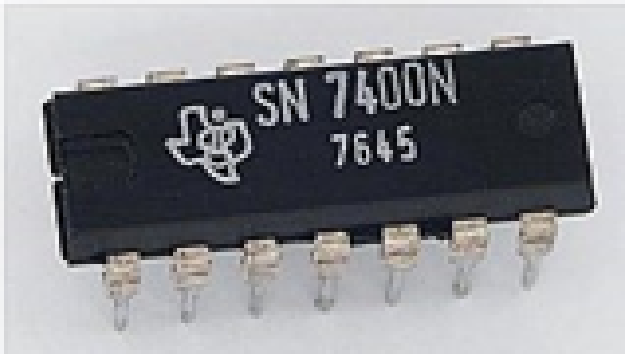
CIs

- 74XX

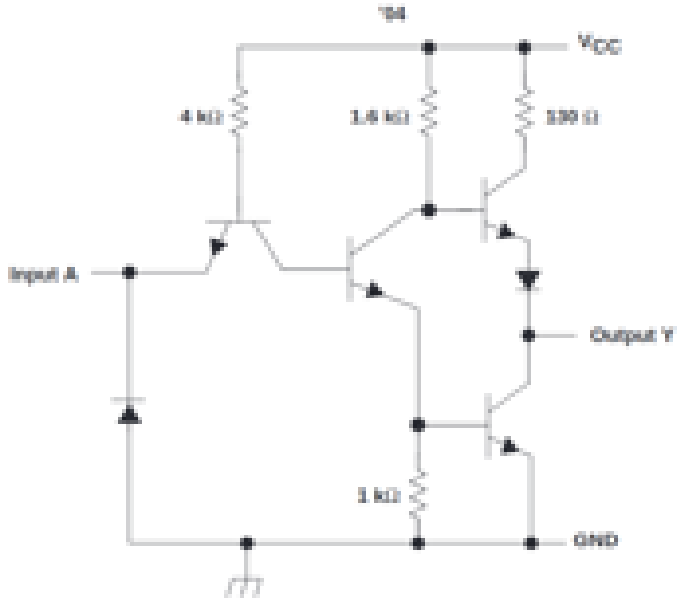




SN5404, SN54LS04, SN54S04,
SN7404, SN74LS04, SN74S04
HEX INVERTERS

SDLS029C – DECEMBER 1983 – REVISED JANUARY 2004

schematics (each gate)



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Prática

- Lab. 1
- APS-A

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Próxima aula

- Estudar: Teoria $\rightarrow$ Componentes
- Estudar: VHDL $\rightarrow$ Básico

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