

Título

Computação Digital

Experimentos

Algoritmos Quânticos

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0101101

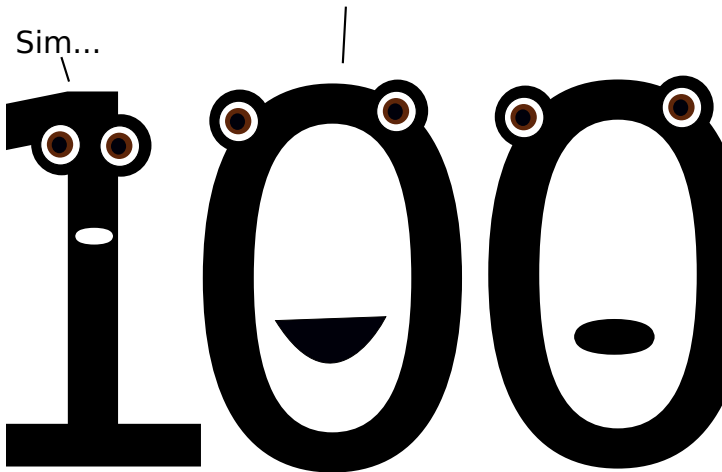
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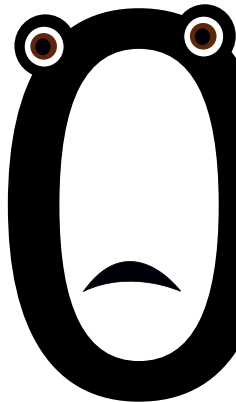
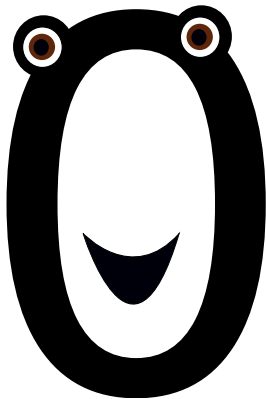
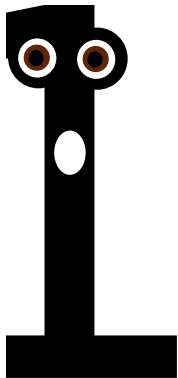


Finalmente! É o meu grande dia!

Sim...



SIM!



A problem has been detected and windows has been shut down to prevent damage to your computer.

The problem seems to be caused by the following file: SPCMDCON.SYS

PAGE_FAULT_IN_NONPAGED_AREA

If this is the first time you've seen this stop error screen, restart your computer. If this screen appears again, follow these steps:

Check to make sure any new hardware or software is properly installed. If this is a new installation, ask your hardware or software manufacturer for any windows updates you might need.

If problems continue, disable or remove any newly installed hardware or software. Disable BIOS memory options such as caching or shadowing. If you need to use Safe Mode to remove or disable components, restart your computer, press F8 to select Advanced Startup Options, and then select Safe Mode.

Technical information:

*** STOP: 0x00000050 (0xFD3094C2,0x00000001,0xFBFE7617,0x00000000)

*** SPCMDCON.SYS - Address FBFE7617 base at FBFE5000, DateStamp 3d6dd67c

bits

Sobre os *bits*:

- ▶ Eles moram em \mathbb{Z}_2
- ▶ Formam vetores em \mathbb{Z}_2^n , onde cada $\vec{a} = (a_1, a_2, \dots, a_n) \in \mathbb{Z}_2^n$ representa um valor entre $00\dots 0 = 0$ e $11\dots 1 = 2^n - 1$
- ▶ Realizamos operações *Booleanas* com eles: \neg , \wedge , \vee , \oplus .

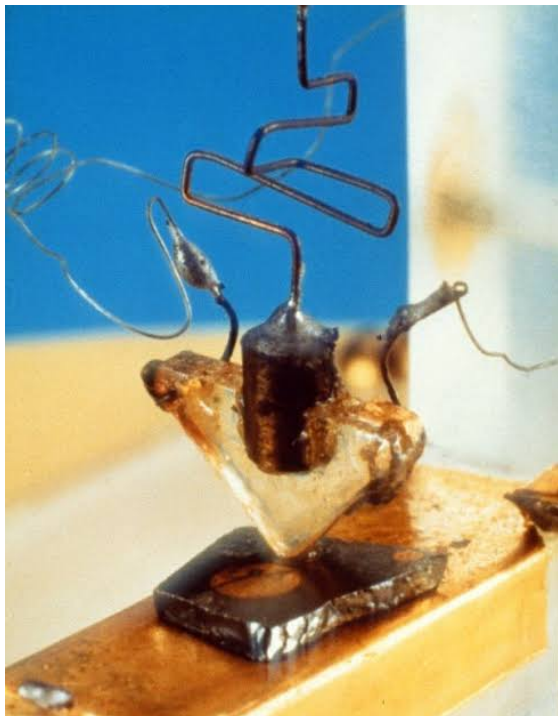


George Boole
1918 - 1988

$$\neg : \mathbb{Z}_2 \rightarrow \mathbb{Z}_2$$

$$a \rightarrow \bar{a} = (1 - a)$$





Arquitetura de Von Neuman



John Von Neuman
1903 - 1957

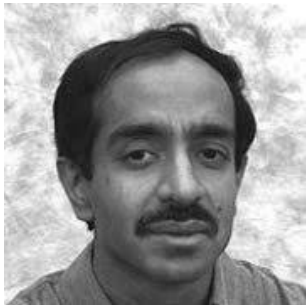
Fenômenos Quânticos



Richard Feynman
1918 - 1988

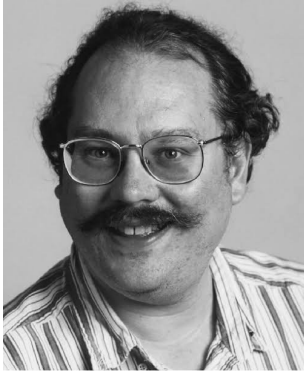
Experimentos

Algoritmo de Grover

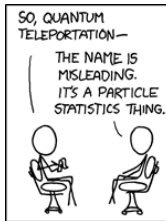


Lov Grover
Ex-Bell Labs

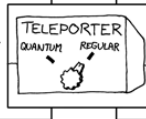
Algoritmo de Shor



Peter Shor
MIT



SO IT'S NOT LIKE STAR TREK? THAT'S BORING.



Teletransporte Quântico



Introduction to topological quantum computation with non-Abelian anyons, FIELD, B. & SIMULA, T., School of Physics and Astronomy, Monash University, Victoria 3800, Australia.