

Typology of programming languages

~ Modern Era ~

1977-1978

- **1977** Apple, Commodore, and Tandy begin selling personal computers
- **1977** Texas Instruments introduces the Speak-and-Spell educational toy

Speak & Spell Box



video 'Speak and Spell commercial
(circa 1980).mp4'

Microsoft Staff, 1978 Dec 7th



1978-1979

- **1978** Total computers in use in the U.S. exceed a half million units.
- **1979** VisiCalc is released for the Apple][.
The first spreadsheet program.
- **1979** The Source and CompuServe Information Services go on-line.

1979: Hewlett-Packard introduces the HP-41C



MoHPC

1980

- **1980**Total computers in use in the U.S. exceed one million units.
- **1981**Sinclair's ZX81 is sold \$ 100. 1Kb.

ZX81



VIC-20

- **1981** Commodore introduces the VIC-20 home computer, first computer to sell over one million units. 4Kb RAM.



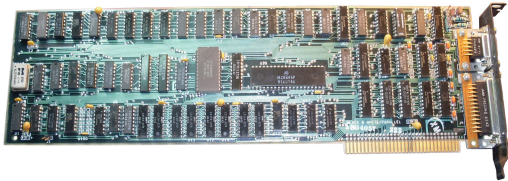
IBM PC 5150

- **1981-08-12** IBM “enters” the personal computer market with its model PC 5150.



Monochrome Display and Parallel Printer Adapter

- **1981** MDA card had a single monochrome text mode to allow high-resolution text and symbol display at 80 x 25 characters



First portable computer

- **1981** Osborne 1, the first commercially successful portable computer (10.7 kg).



First step to become Windows

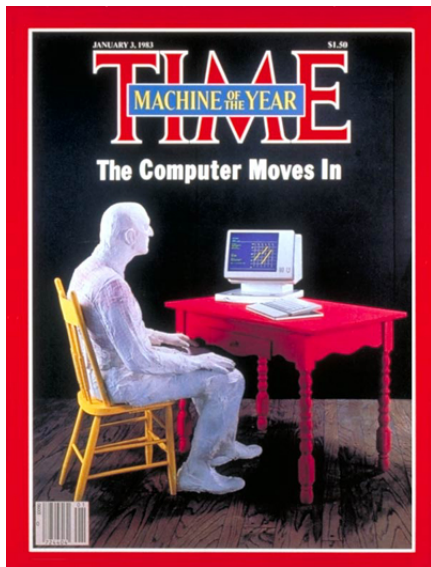
- **1981** In September, MicroSoft starts the development of the Interface Manager (to become Windows)

Cellular Phone

- **1983** DynaTAC 8000X; the first commercially available mobile phone



1983: The Time Magazine Cover



1983: The Time Magazine Cover

Richard Stallman makes the first public announcement about the GNU project.



Richard M. Stallman



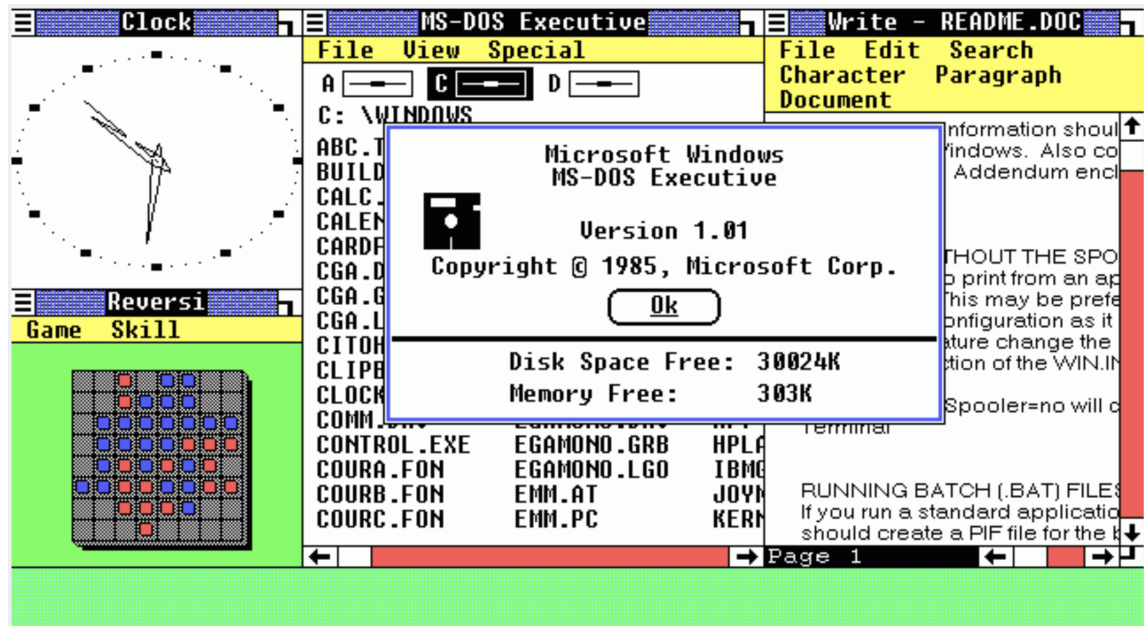
taming a butterfly ...

1984: Macintosh

Video: Macintosh Ad

Video: Introducing Macintosh

Windows 1.0



1985: Bill Gates



1985: Bill Gates



1985: Bill Gates



1988: Game Boy



**video NintendoGameBoyOriginal-
Commercial.mp4**

Pagers (90's)



Motorola Advisor Pager (1990)

PDA: Apple Newton (1993)



Smartphones premises

- **1994** make and receive cellular phone calls, send and receive faxes, e-mails and cellular pages, 50,000 units. \$1099.



Deep Blue Kasparov (1996/1997)

- **1996:** 256 processors, 700kg, 2m
- **1997:** 256 processors, 1400kg, 1.80m



MpMan (1998)

- \$627.44, 32 MB to 64 MB



”First GPU” Geforce-256 (1999)



The Abacus by Fossil 2003

- work with Microsoft SPOT, FM waves technology
- \$60 per year
- MSN, outlook, etc

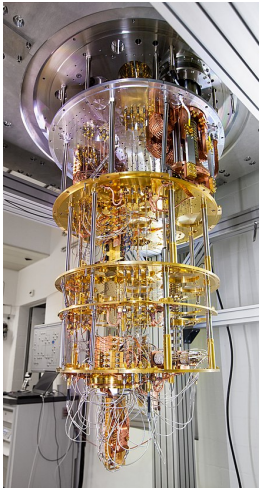


2011

**Watson beats the humans at
Jeopardy!**

Quantum computer online (2016)

- 2 qubits (Neil Gershenfeld, 1998)
- 50 qubits in 2016, IBM



Kraftwerk (1978)



Changing Minds – 16 bits



(1986)

Changing Minds – 16 bits

Read the instructions on your plasma screen
store your program on disc

And now you move with the cursor up and down
left and right.

Printing directly from the keyboard

change line forty in your program

Insert a sheet of paper and let the system run.

Face the fact you're left in the dark
with the fantastic 8 megabyte computer.

Start by checking all the connections

Changing Minds – 16 bits

and now turn on the power.

While holding the bold key
activating the ram expansion port

Insert your final program
and then you press 'return'.

Changing; changing; changing minds

If you have detected an error
enter the following command

Poke eighthundredandfiftyeight
one and two
three and four.

Pressing the backspace indicator
touch one of the red function keys

Changing Minds – 16 bits

Select the background colour
the white
the black
the green
the red.

Count these pieces of information
don't be afraid
my friend

Learn to use this computer
don't try to lose control

If you don't follow these instructions
a five pound explosive charge
Will detonate in your face
and now turn off the power!