



Curso de Introducción al Desarrollo Web

Diego De Granda



@degranda10

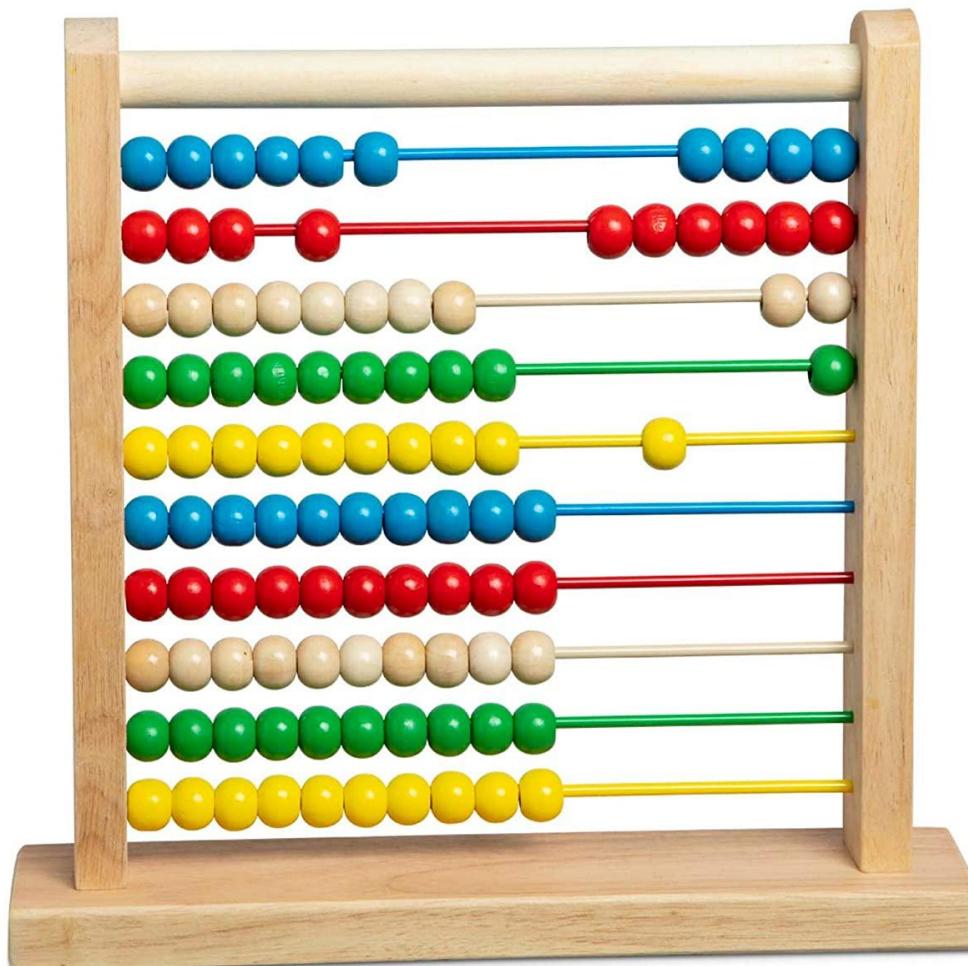


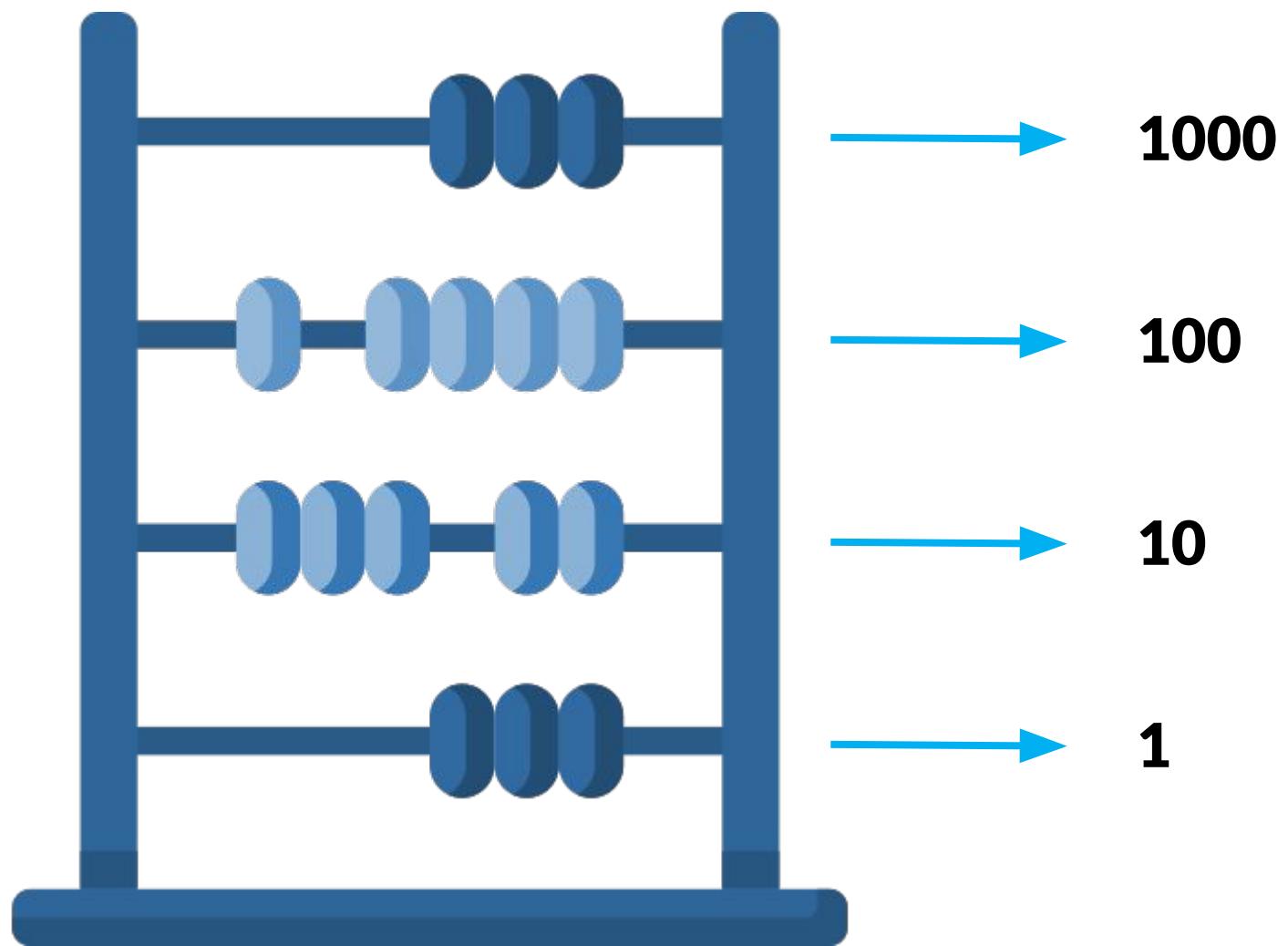
@degranda

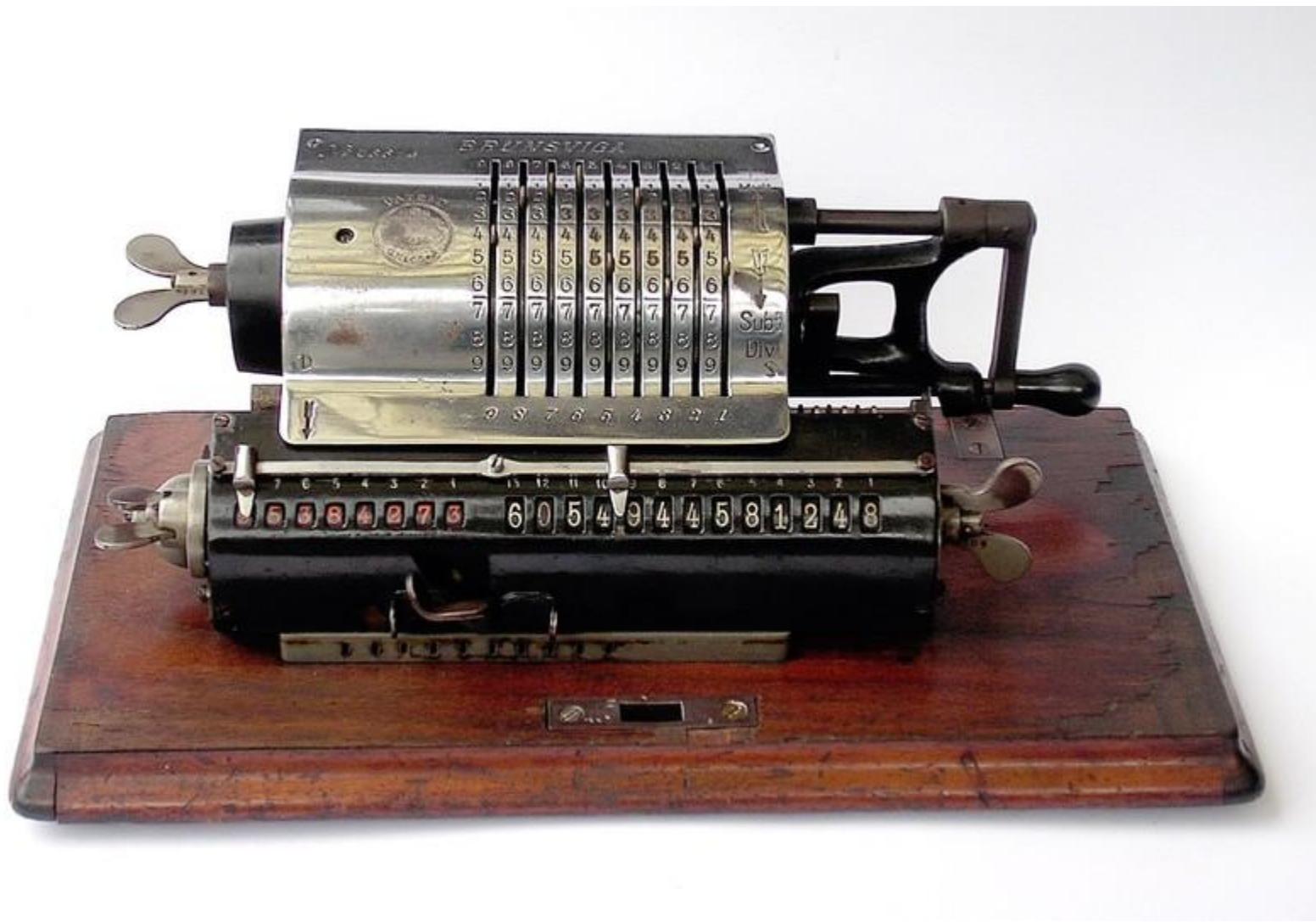
El lenguaje de la computadora

¿Cómo empezó todo?

Ábaco





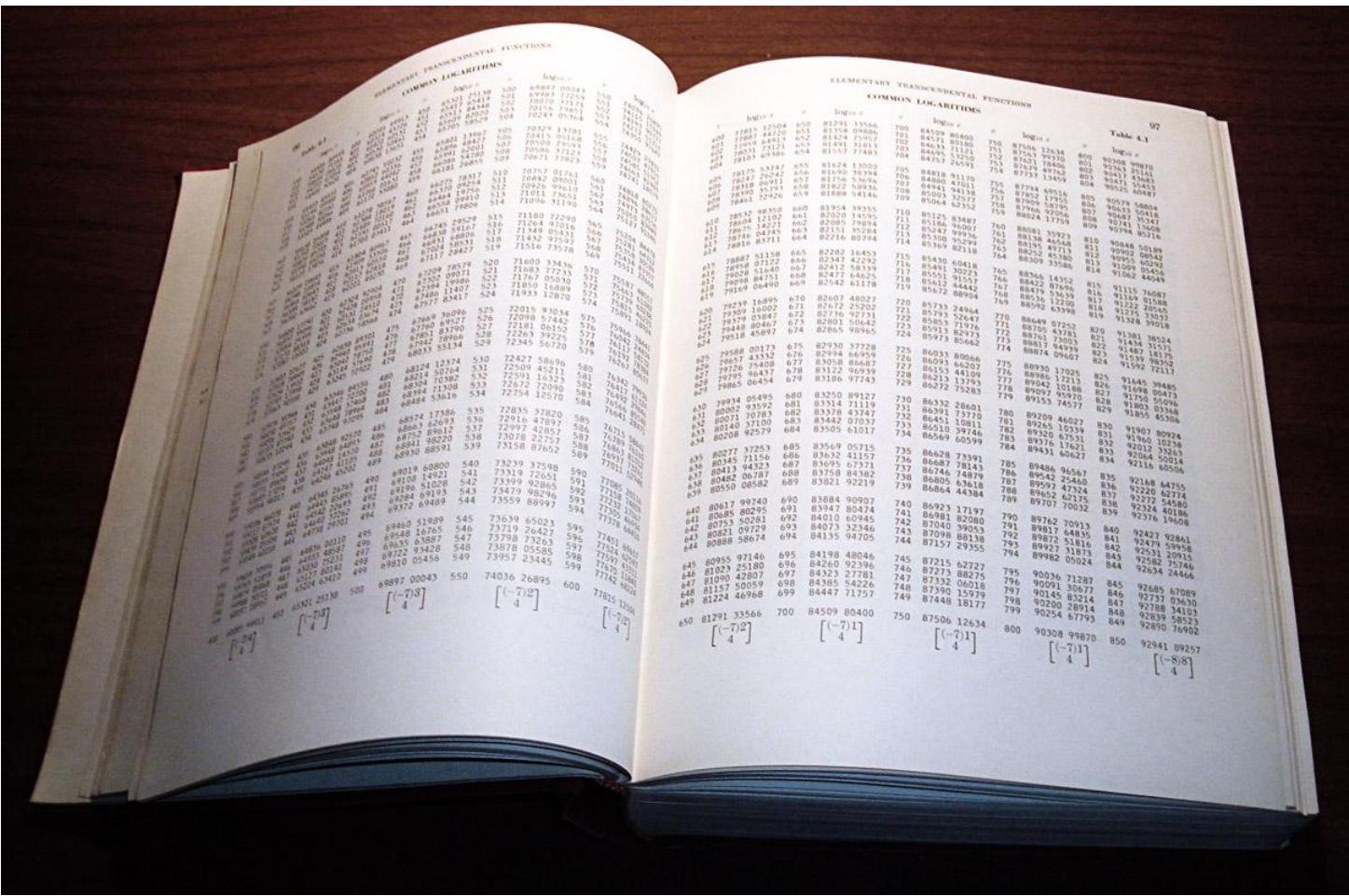


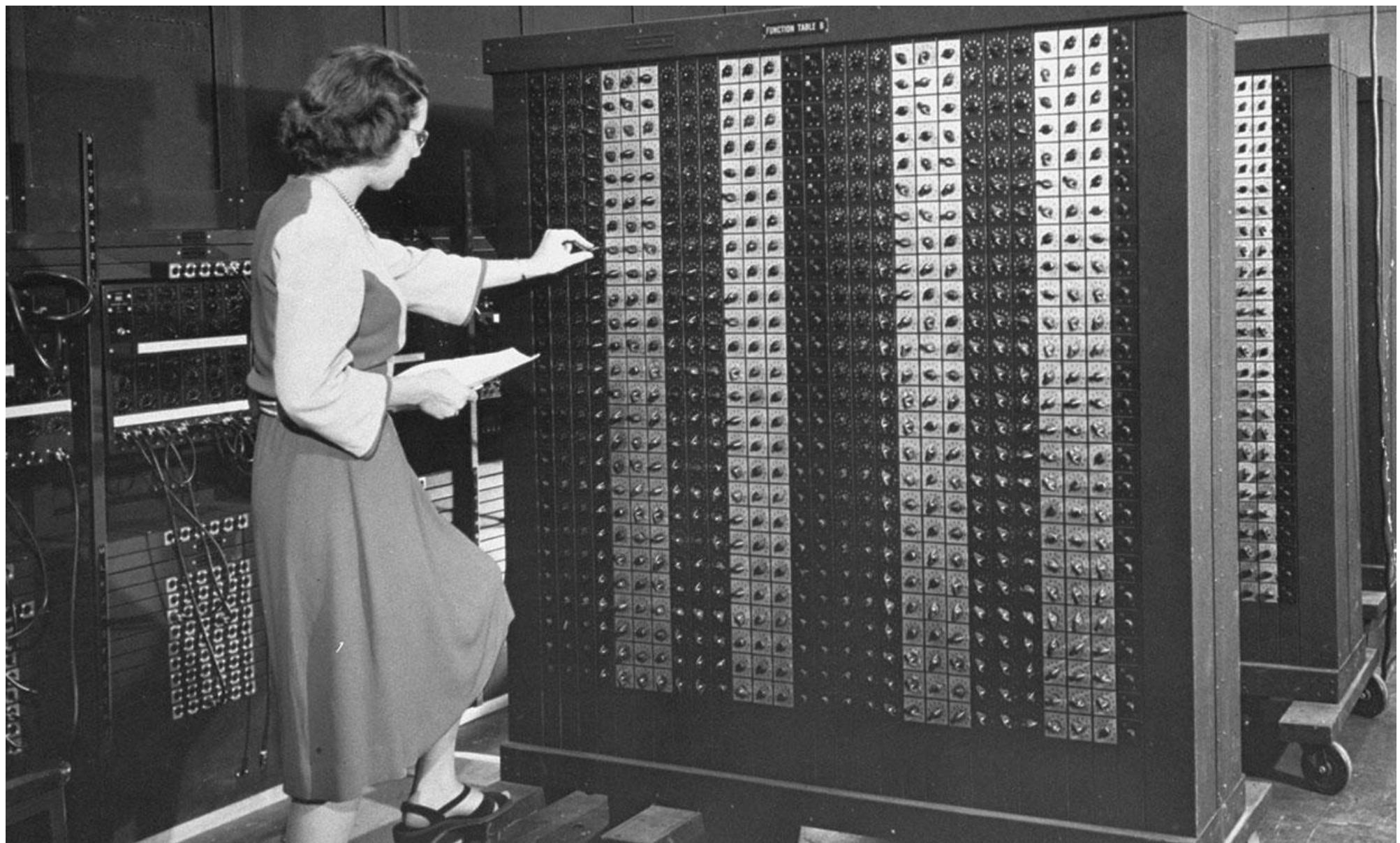
Computadoras humanas



Libros con cálculos

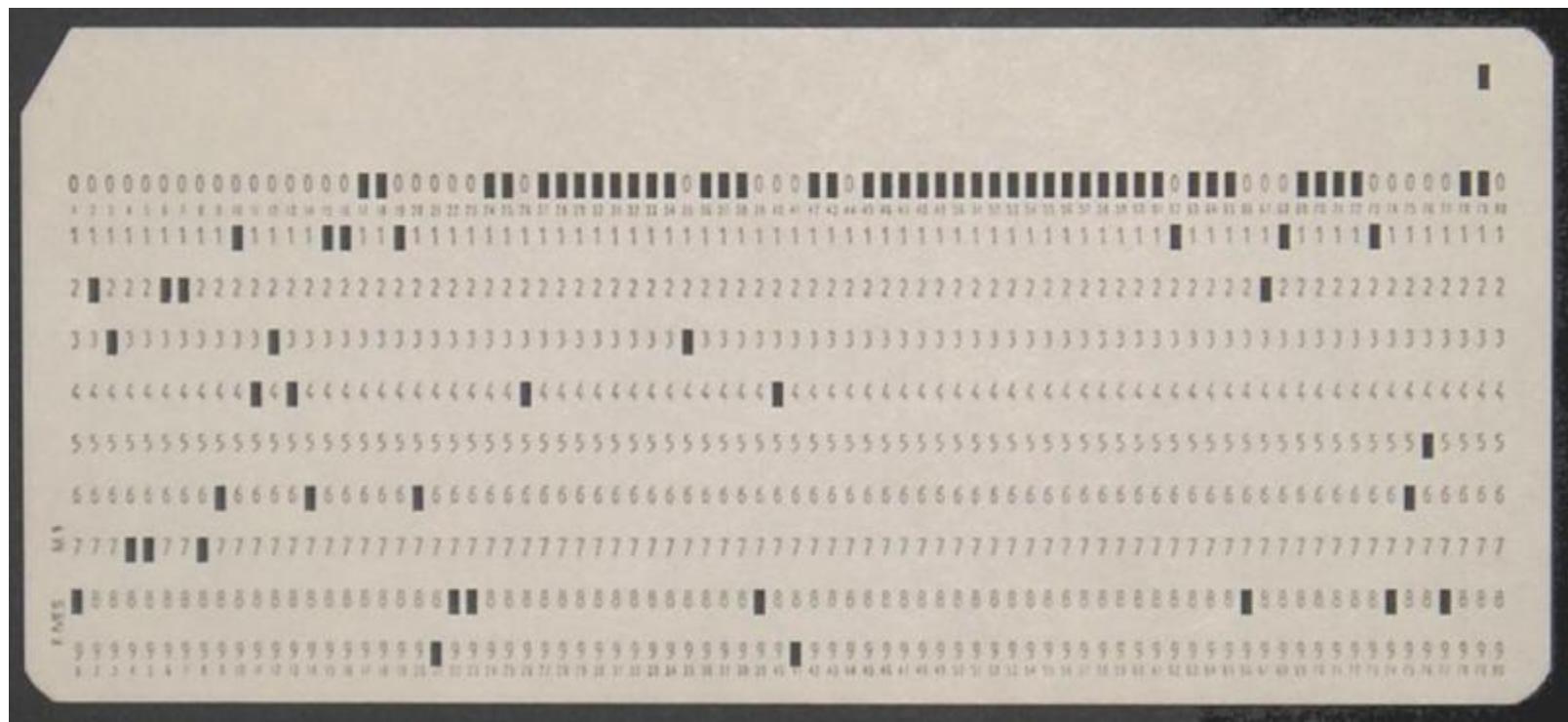
(precomputation table)







Tarjetas perforadas



Machine code

Machine Code

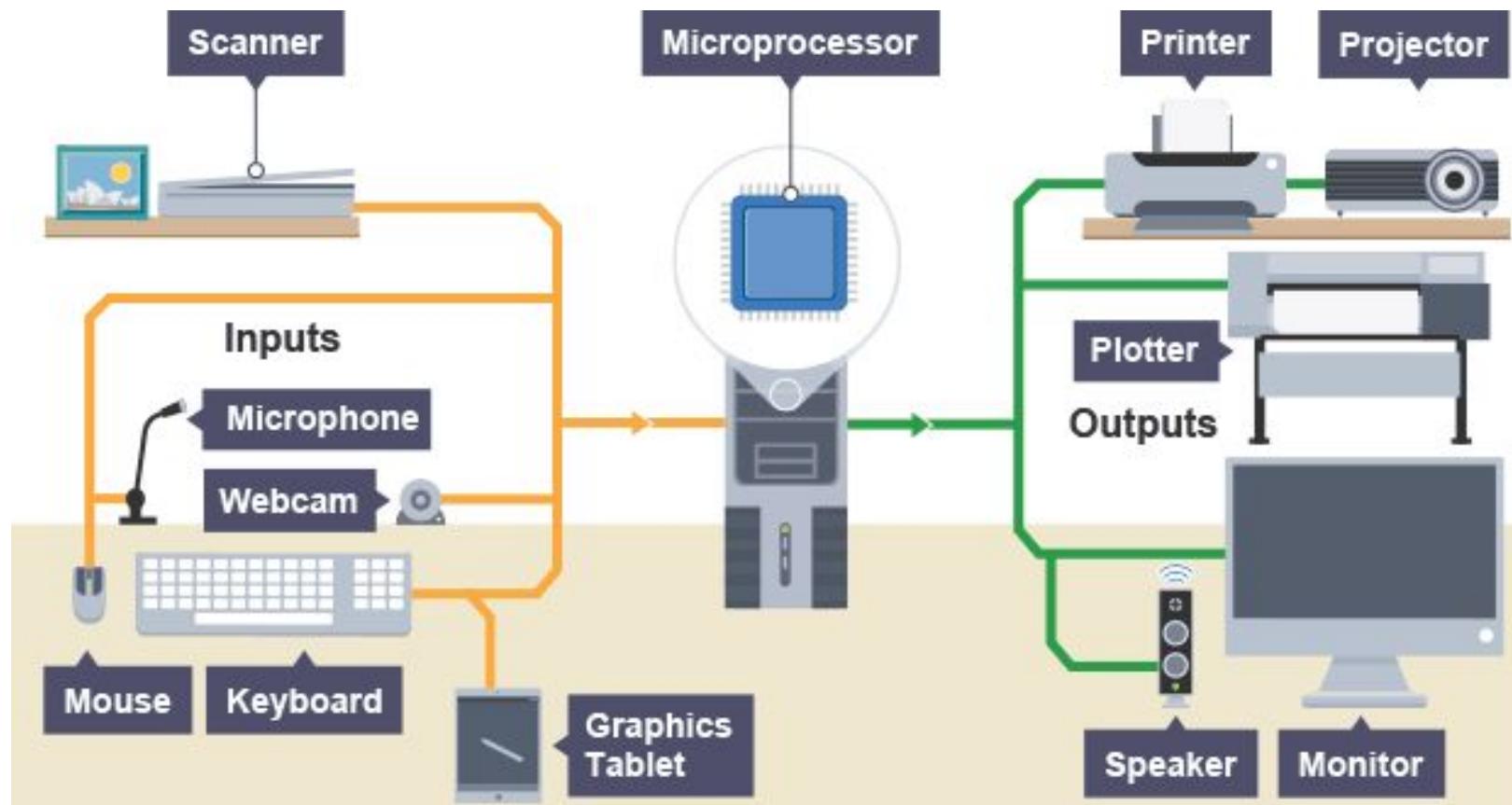
```
10011101000110100000  
01100011010001110110  
10000010111101101110  
11110110001011011000  
10000010011100011011  
10010011000111000000
```

Primeros lenguajes de programación



Inputs y outputs





Muchos cálculos

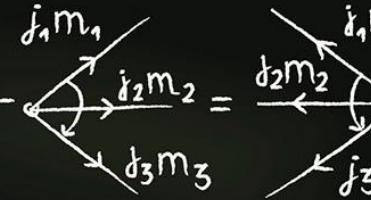

 $V(x) = \begin{cases} 0, & x < 0, \\ V_0, & x \geq 0. \end{cases}$
 $\sigma_x \sigma_p \geq \frac{\hbar}{2}$
 $E = h\nu$
 $E = \frac{\hbar^2}{2r}$

$\psi_1(x) = \frac{1}{\sqrt{k_1}} (A_r e^{ik_1 x} + A_s e^{-ik_1 x})$
 $x < 0$
 $\frac{d}{dt} A(t) = \frac{i}{\hbar} [H, A(t)] + \frac{\partial A}{\partial t}$

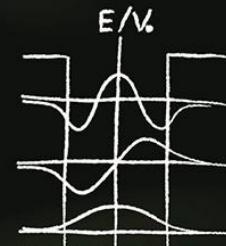
$\psi_2(x) = \frac{1}{\sqrt{k_2}} (B_r e^{ik_2 x} + B_s e^{-ik_2 x})$
 $x > 0$
 $T|j,m\rangle \equiv |T(j,m)\rangle = (-1)^{j-m} |j,m\rangle$

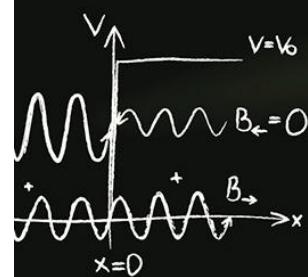
$\frac{\partial}{\partial t} \Psi(r,t) = \hat{H} \Psi(r,t)$
 $|\Psi\rangle_{AB} = \sum_{i,j} c_{ij} |i\rangle_A \otimes |j\rangle_B$

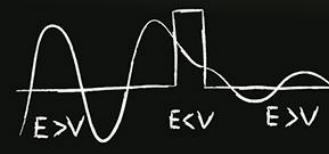
$\int_{-\infty}^b \int_{-\infty}^x W(x,p) dp dx$
 $H_n(x) = (-1)^n e^{x^2} \frac{d^n}{dx^n} (e^{-x^2})$

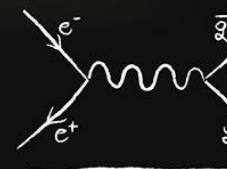

 $j_1 m_1$
 $j_2 m_2$
 $j_3 m_3$
 $j_1 r$

$\frac{\hbar^2}{m} \frac{d^2 \psi}{dx^2} = E \psi$
 $\psi(x) = A e^{ikx} + B e^{-ikx}$
 $i\hbar \frac{d}{dt} |\psi(t)\rangle = H |\psi(t)\rangle$


 $U(t) = \exp\left(\frac{-iHt}{\hbar}\right)$
 $A[x] = \exp\left(\frac{i}{\hbar} \int X(t) dt\right)$


 $P(a,b) = \int d\lambda \cdot \rho(\lambda) \cdot p_a(a,\lambda) \cdot p_b(b,\lambda)$

$W \rightarrow \frac{1}{(\pi\hbar)^3} \exp\left[-\alpha^2\left(x - \frac{pt}{m}\right)^2\right]$



 e^-
 e^+
 \bar{e}
 \bar{e}

Binario

Sistema de conteo

Notación decimal

0, 1, 2, 3, 4, 5, 6, 7, 8, 9

123,456,789

Centena de millón

Decena de millón

Unidad de millón

Centena de mil

Decena de mil

Unidad de mil

Centena

Decena

Unidad

3

20

1,230

0 y 1

128, 64, 32, 16, 8, 4, 2, 1

128, 64, 32, 16, 8, 4, 2, 1

00000001 = 1

00000010 = 2

00000011 = 3

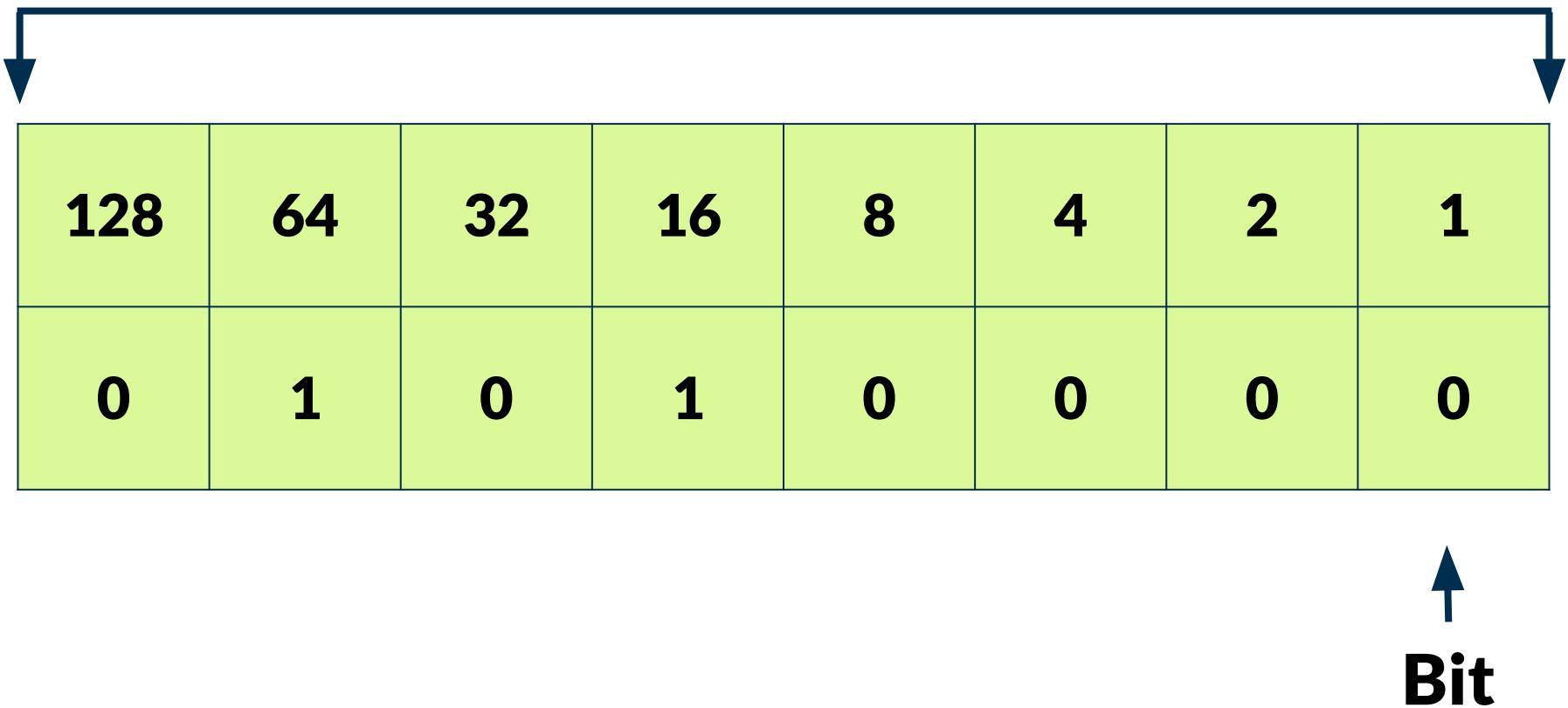
00010100 = 20

11111111 = 255

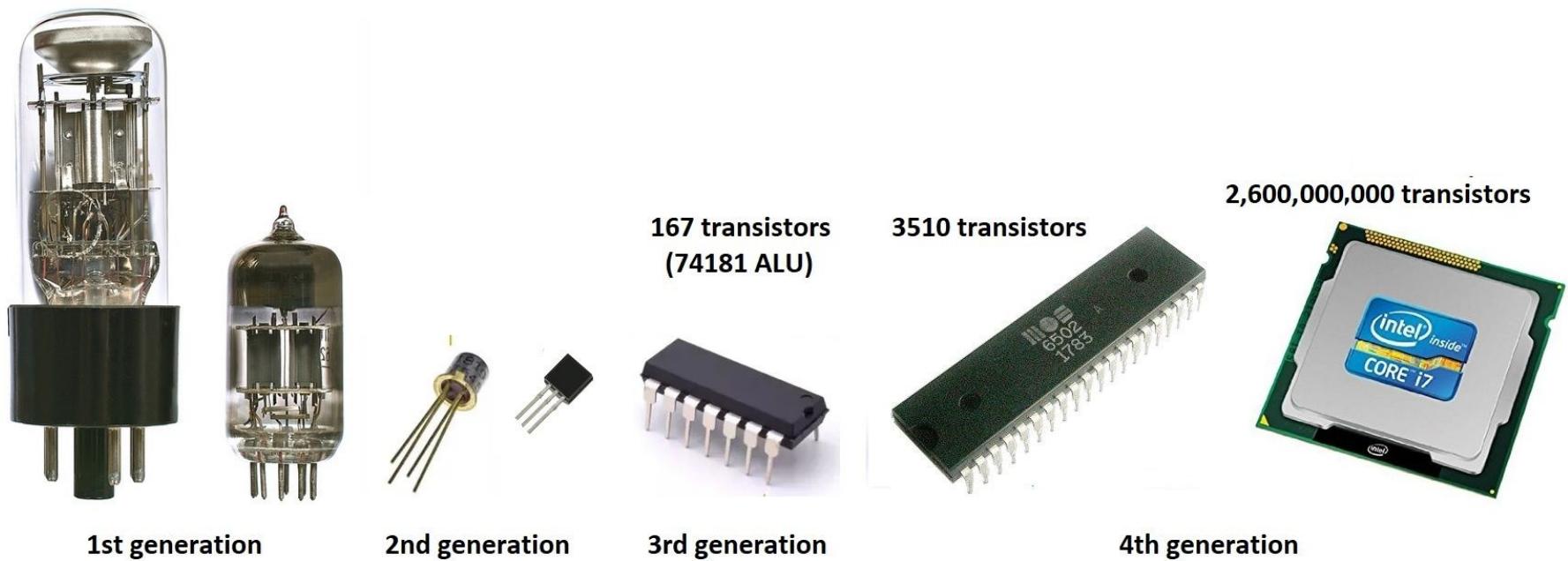
Bit & bytes

128	64	32	16	8	4	2	1
0	1	0	1	0	0	0	0

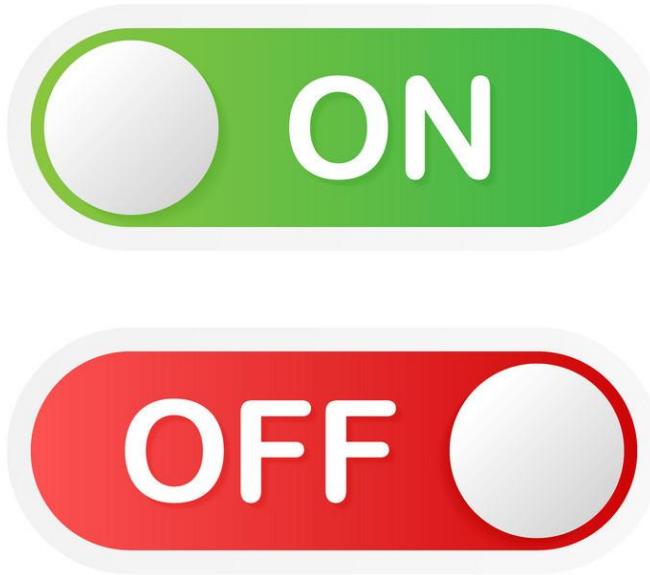
Byte



Transistors



Transistores



ON	OFF
True	False
1	0

Pero entonces,
¿cómo con bytes puedo
representar letras, números,
caracteres especiales, etc.?

¿Cómo se representan
letras números, colores,
etc.?

ASCII

A B C D E F G H I J K L M N O P Q R S T U

65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85

V W X Y Z

86 87 88 89 90

161 72 111 108 97 33

161 72 111 108 97 33

¡Hola!

161 72 111 108 97 33

10100011
01001000
01101111
01101100
01100001
00100001

¡Hola!



161 72 111 108 97 33



10100011
01001000
01101111
01101100
01100001
00100001

UNICODE

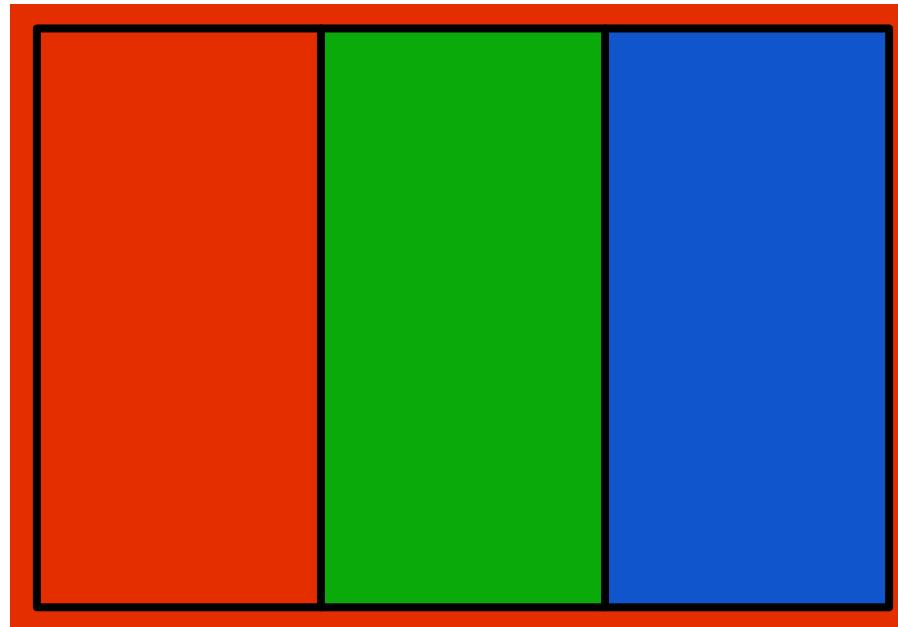
!	"	#	\$	%	&	'	()	*	+	,	-	.	/	
0	1	2	3	4	5	6	7	8	9	:	;	<	=	>	?
@	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
P	Q	R	S	T	U	V	W	X	Y	Z	[\]	^	_
~	a	b	c	d	e	f	g	h	i	j	k	l	m	n	o
p	q	r	s	t	u	v	w	x	y	z	{		}	~	ø
XXX	XXX	BPH	NBH	IND	NEL	SSA	ESA	HTS	HTJ	VTS	PLD	PLU	RI	SS2	SS3
DCS	PUI	PUS	STS	CCH	MW	SPA	EPA	SOS	XXX	SCI	CSI	ST	OSC	PM	APC
NBSP	í	¢	£	¤	¥	¦	§	„	©	™	«	»	®	–	—
°	±	²	³	‘	μ	¶	·	,	¹	º	»	¼	½	¾	‰
À	Á	Â	Ã	Ä	Å	Æ	Ç	È	É	Ê	Ë	Ì	Í	Î	Ï
Đ	Ñ	Ò	Ó	Ô	Õ	Ö	×	Ø	Ù	Ú	Û	Ü	Ý	Þ	ß
à	á	â	ã	ä	å	æ	ç	è	é	ê	ë	ì	í	î	ï
ð	ñ	ò	ó	ô	õ	ö	÷	ø	ù	ú	û	ü	ý	þ	ÿ
Ā	ā	Ă	ă	Ӓ	ӓ	Ć	ć	Ĉ	ĉ	Ĉ	ć	Č	č	Đ	đ
Đ	đ	Ē	ē	Ě	ě	Ē	ē	Ĕ	ę	Ĕ	ě	Ĝ	ĝ	᠀	᠀
Ğ	ğ	Ğ	ǵ	Ĥ	ĥ	Ĥ	ĥ	Ĭ	ĩ	Ĭ	ĩ	Ĭ	ĩ	Ĭ	ĩ
Ĭ	ı	IJ	ij	Ĵ	j	Ķ	ķ	Ķ	ķ	Ĺ	ĺ	Ĺ	ĺ	Ĺ	ĺ
ł	Ł	ł	ń	Ń	ń	Ń	ń	ń	ń	Ń	ń	Ó	ó	Ó	ó
Ő	ő	Œ	œ	Ŕ	ŕ	Ŗ	ŗ	Ŗ	ŗ	Ś	ś	Ŗ	Ŗ	Ŗ	Ŗ

¿Cómo funcionan los colores?

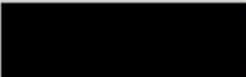
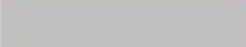
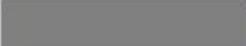
JS



RGB

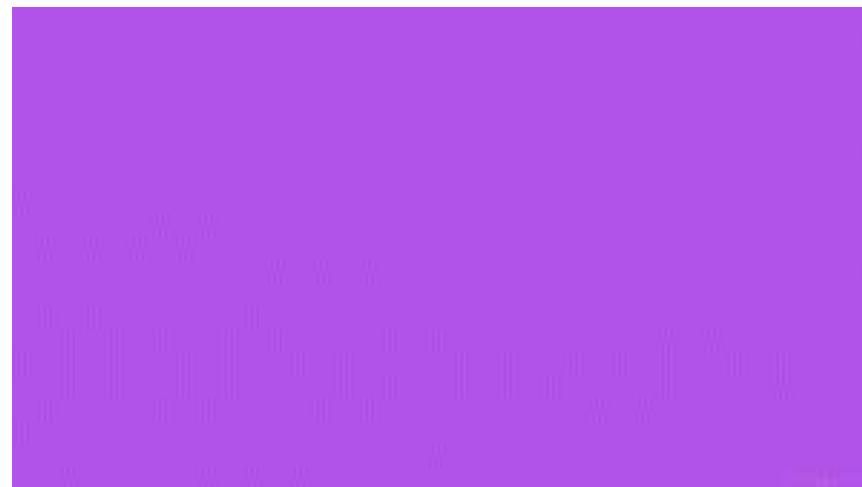


3 Subpixels

	Black
	White
	Red
	Lime
	Blue
	Yellow
	Cyan / Aqua
	Magenta / Fuchsia
	Silver
	Gray
	Maroon
	Olive
	Green
	Purple
	Teal
	Navy

(0,0,0)
(255,255,255)
(255,0,0)
(0,255,0)
(0,0,255)
(255,255,0)
(0,255,255)
(255,0,255)
(192,192,192)
(128,128,128)
(128,0,0)
(128,128,0)
(0,128,0)
(128,0,128)
(0,128,128)
(0,0,128)

Plum Purple





**R: 178
G: 80
B: 228**



R: 178 = 10110010

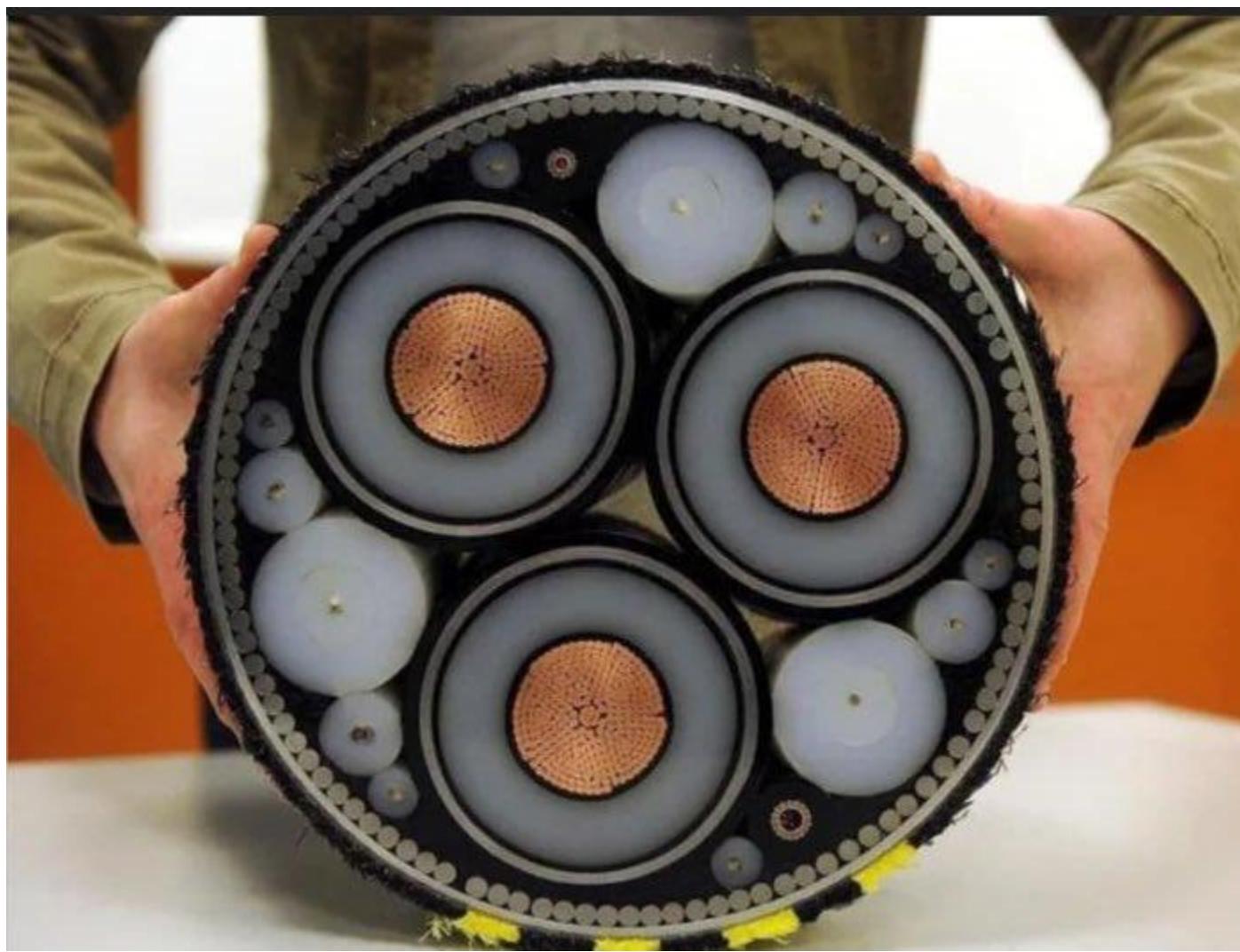
G: 80 = 01010000

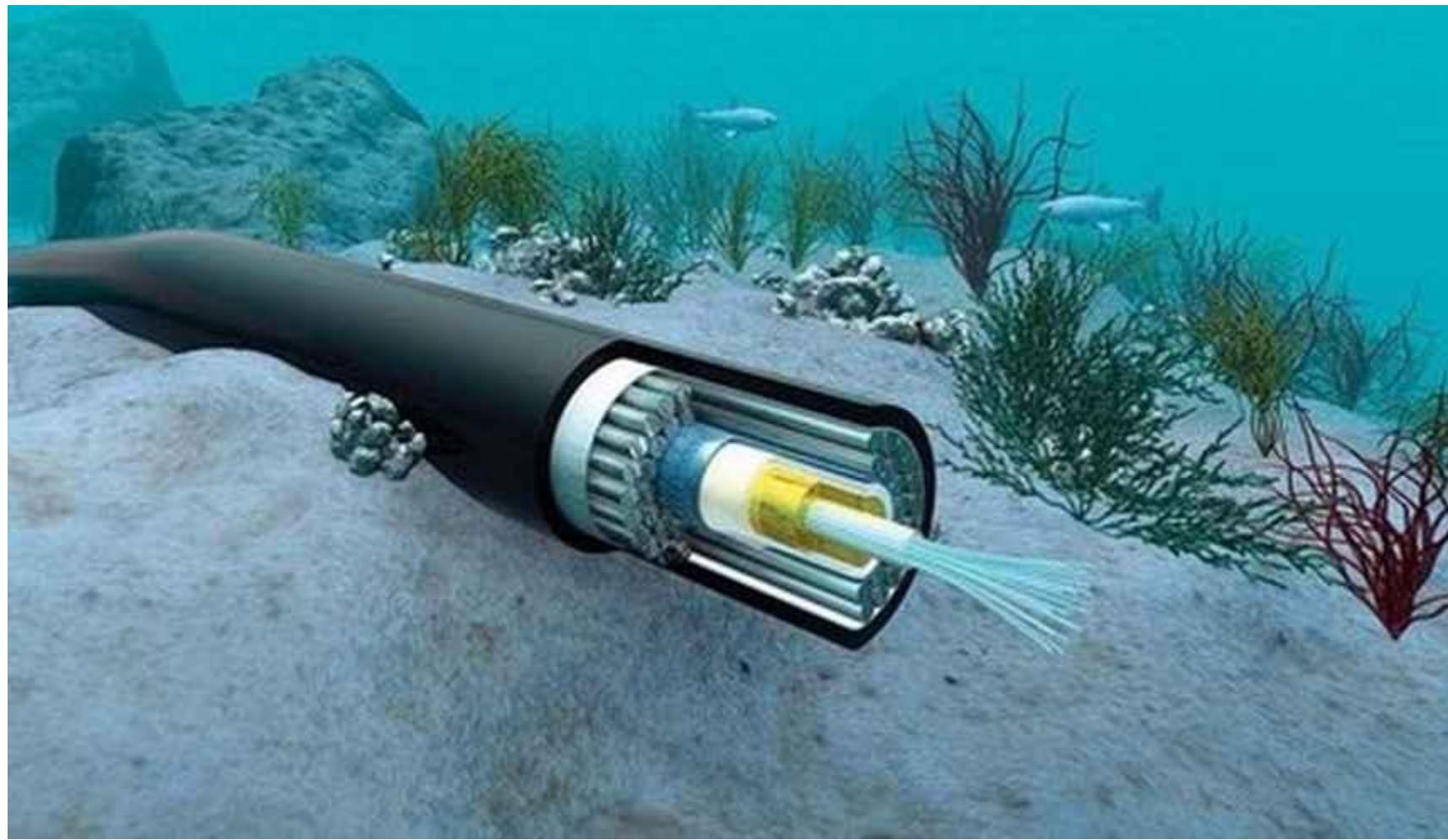
B: 228 = 11100100



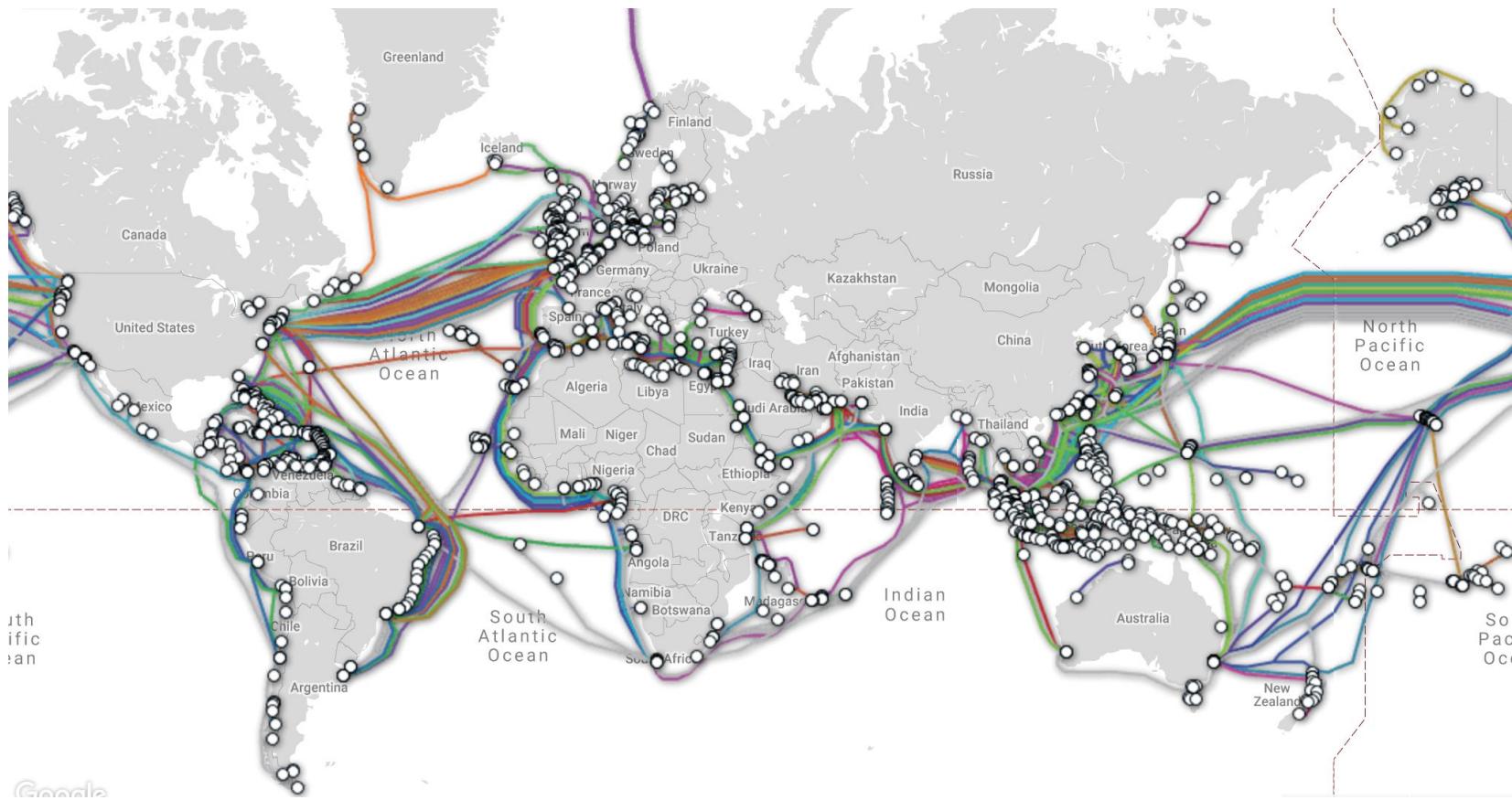
¿Cómo funciona
el Internet?

¿Qué es y de donde viene el Internet?





Internet backbone



“
Internet es una abreviación
de **Internetworking**, y se creó en
los años 70's para referirse a los
cables físicos y las computadoras
que se conectan entre sí.

”

ARPANET

(Advanced Research Projects Agency NETwork)

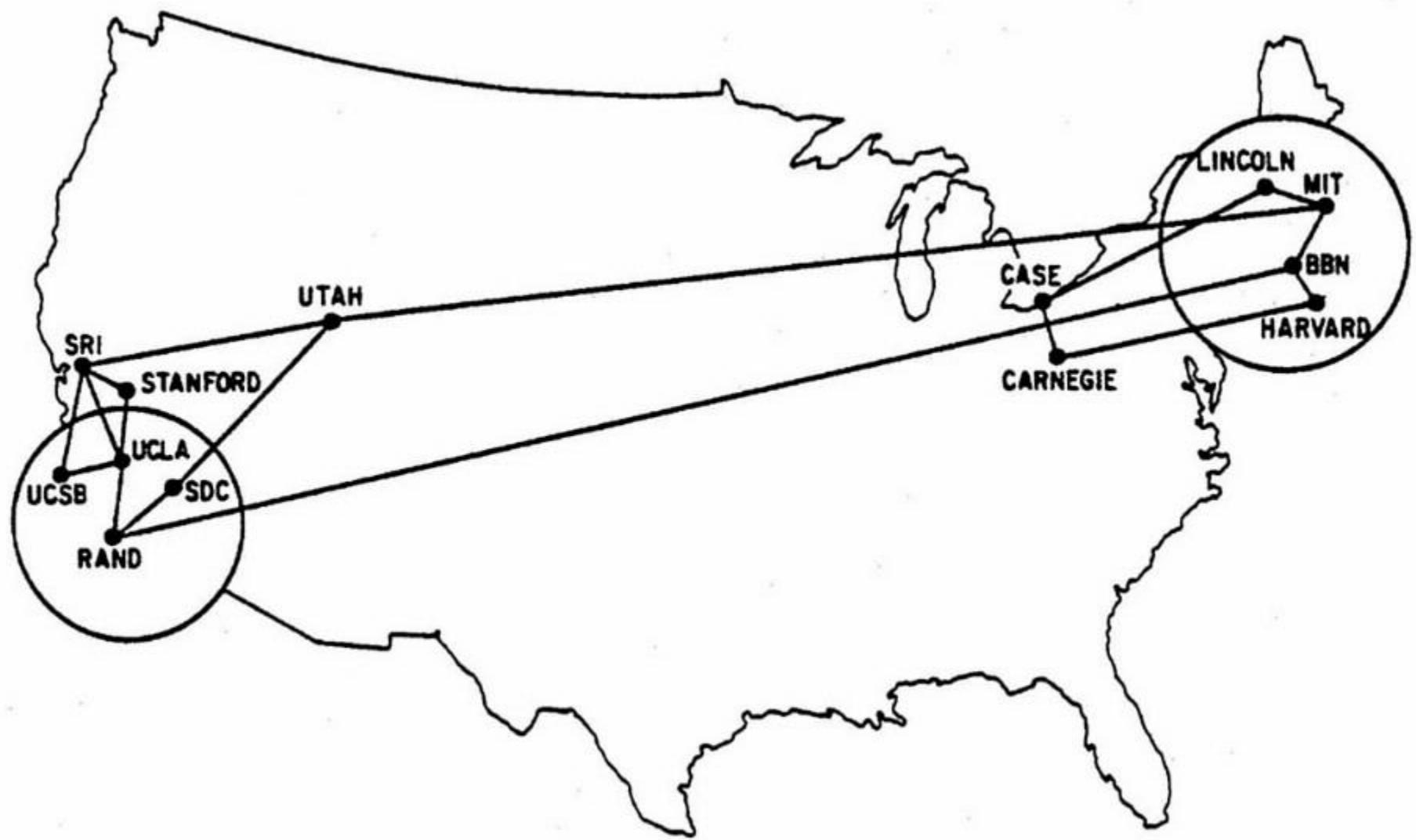
Fue un proyecto de investigación académico.

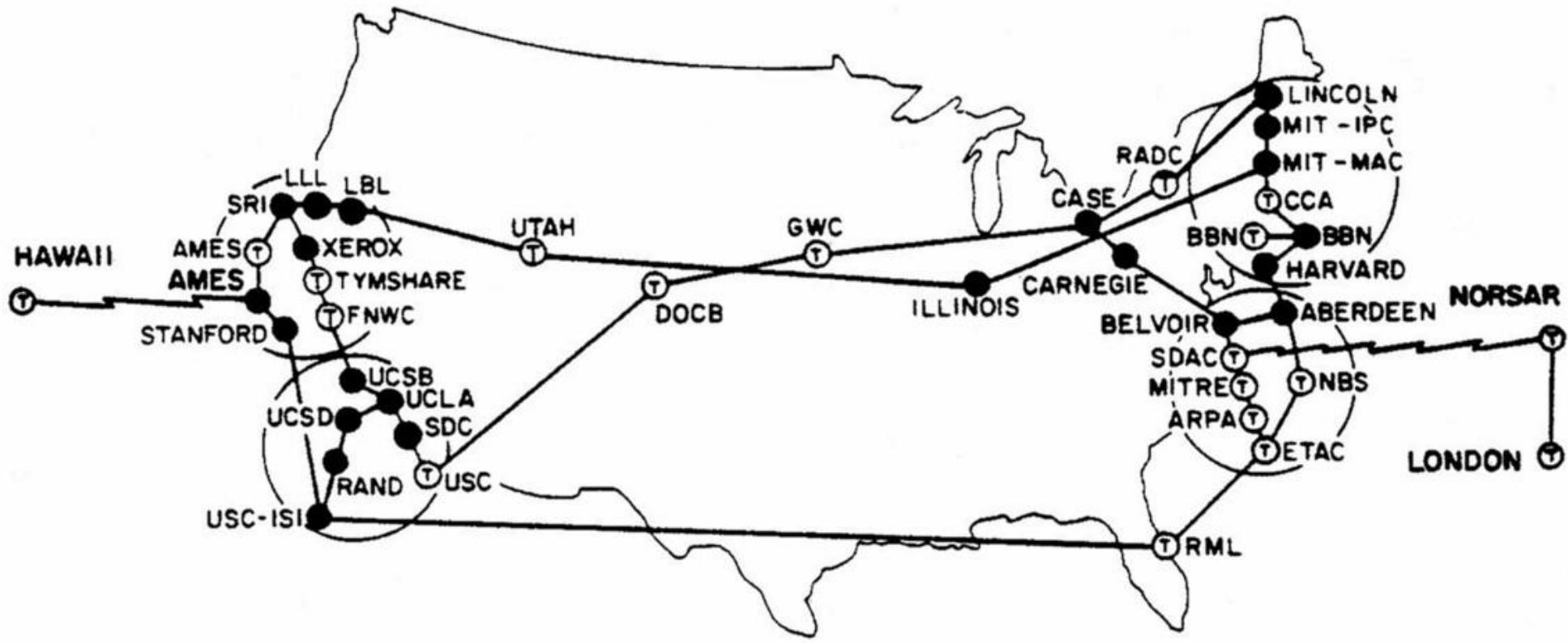


The ARPANET in December 1969

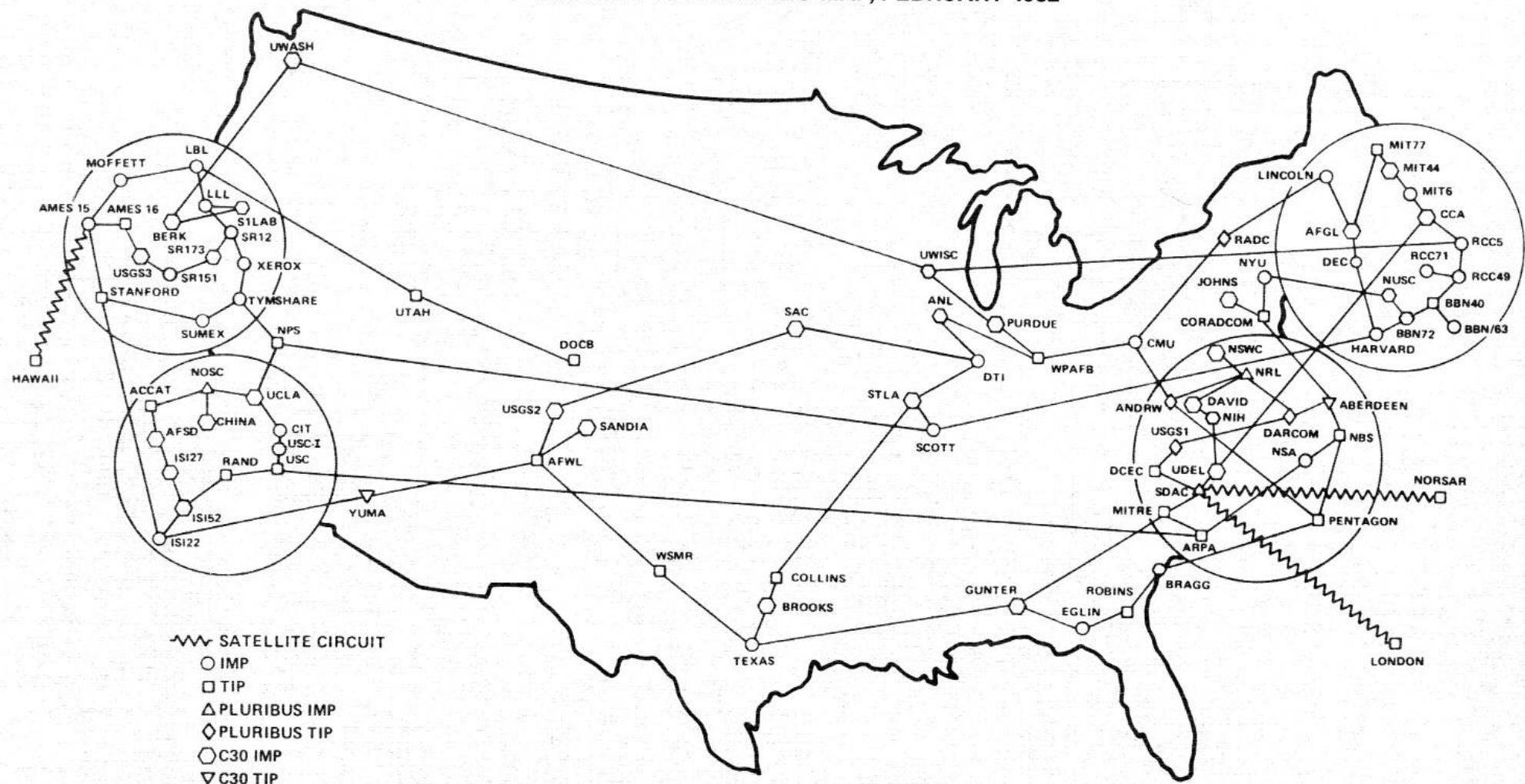
El primer mensaje

El primer mensaje de una computadora a otra estando conectadas tenía que ser “Login” pero solo llegó “Lo”.



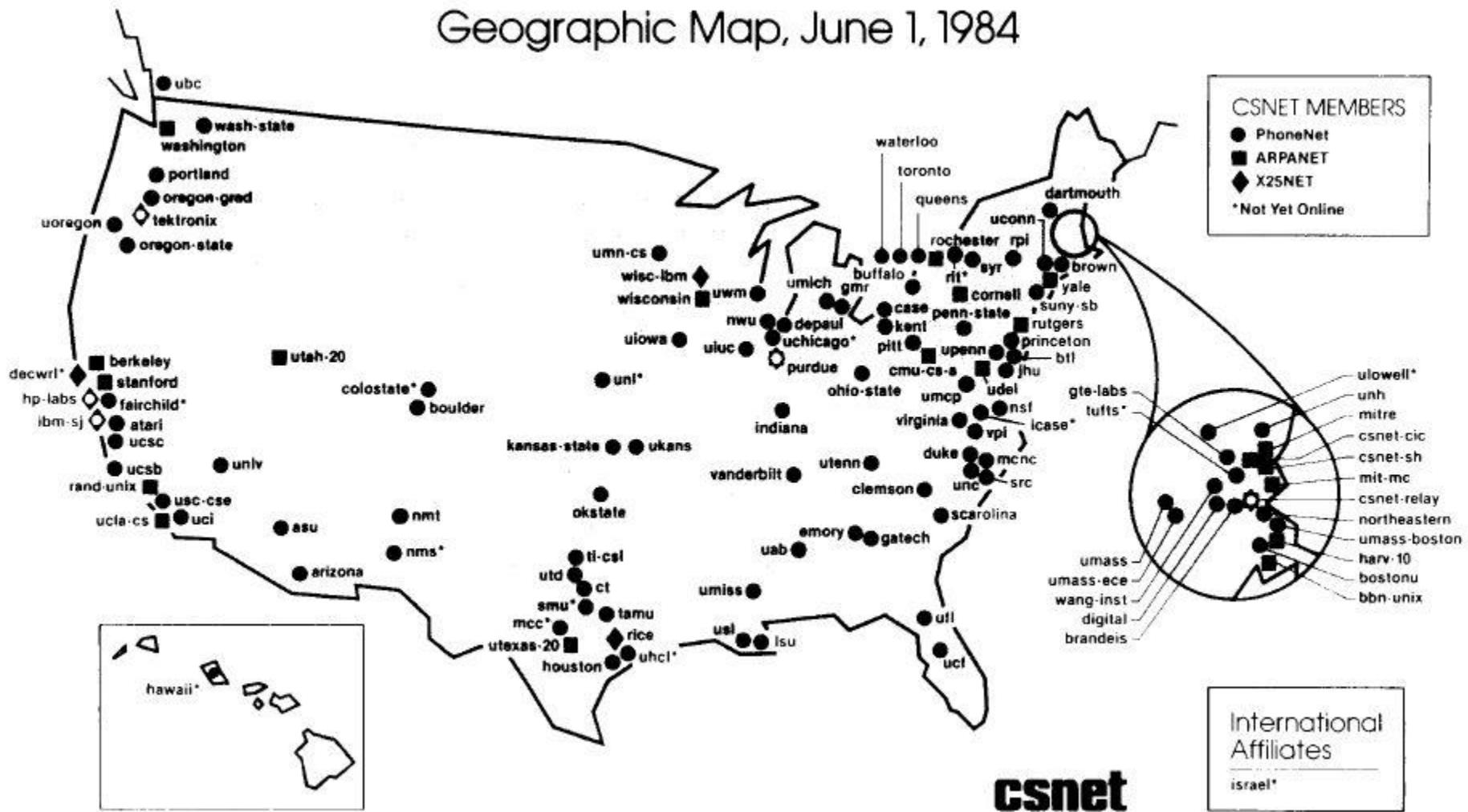


ARPANET GEOGRAPHIC MAP, FEBRUARY 1982



(NOTE: THIS MAP DOES NOT SHOW ARPA'S EXPERIMENTAL SATELLITE CONNECTIONS)
NAMES SHOWN ARE IMP NAMES, NOT (NECESSARILY) HOST NAMES

Geographic Map, June 1, 1984

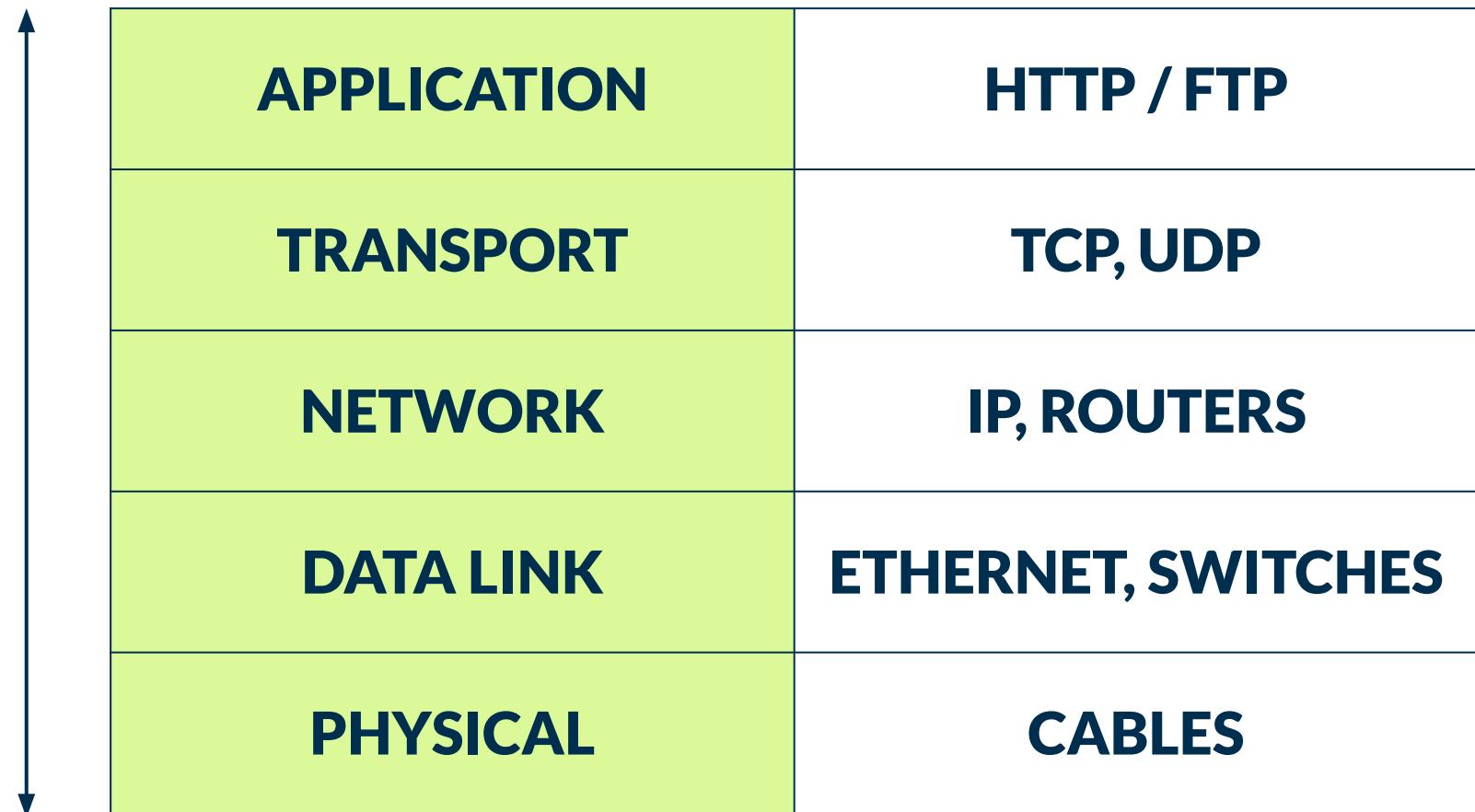


csnet

Protocolos

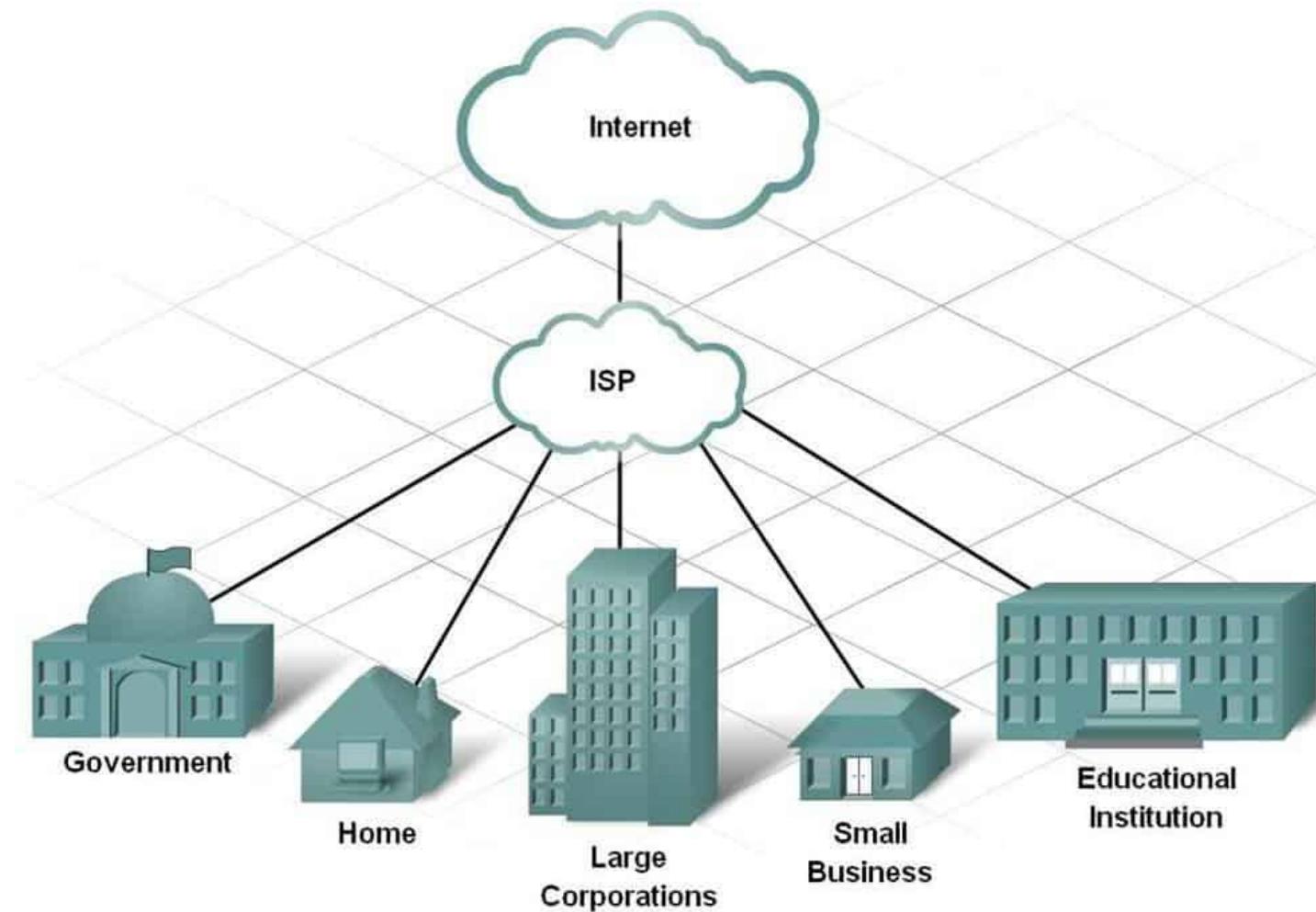
TCP / IP

(Transmission Control Protocol / Internet Protocol)



ISP

ISP (Internet Service Provider)



DNS



DNS (Domain Name System)

172.217.7.23



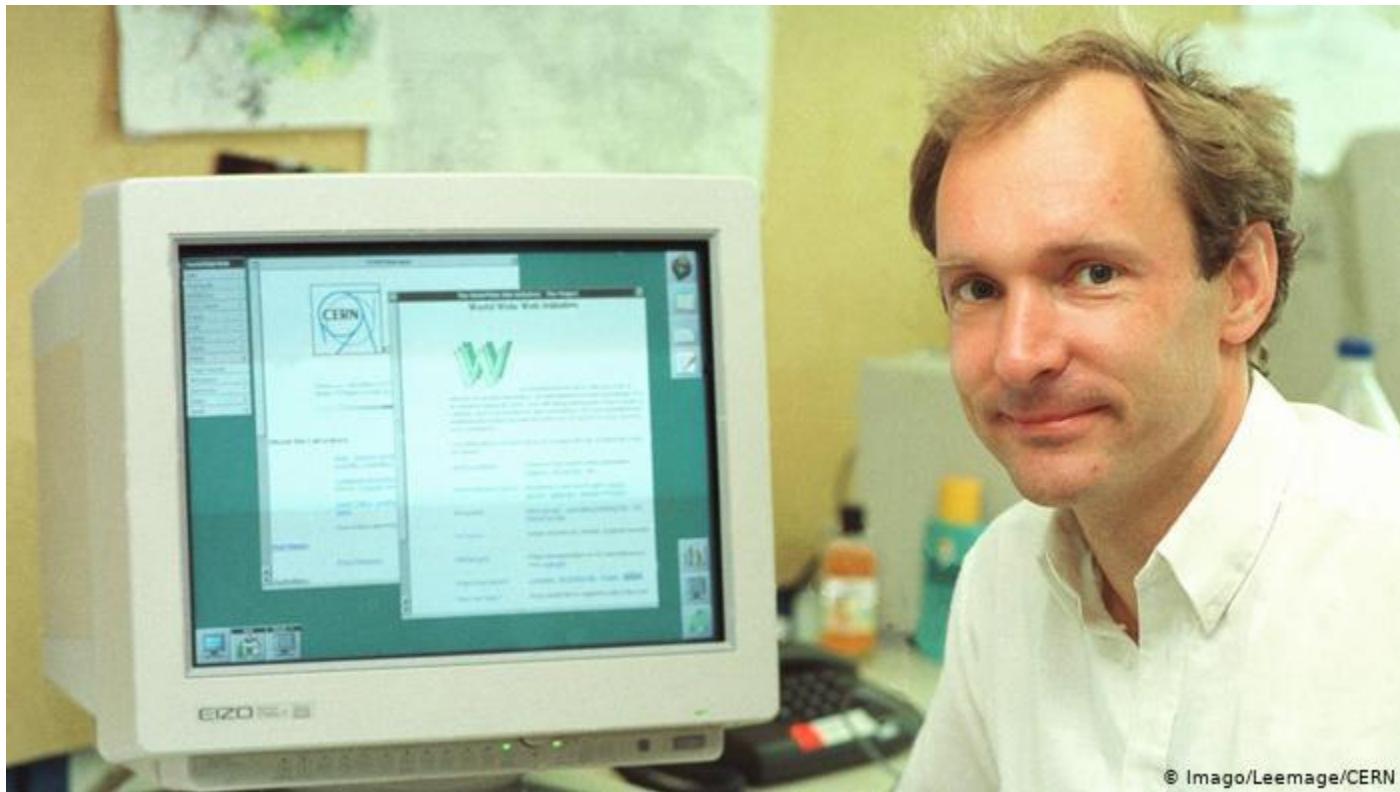
DNS (Domain Name System)

google.com = 172.217.7.23

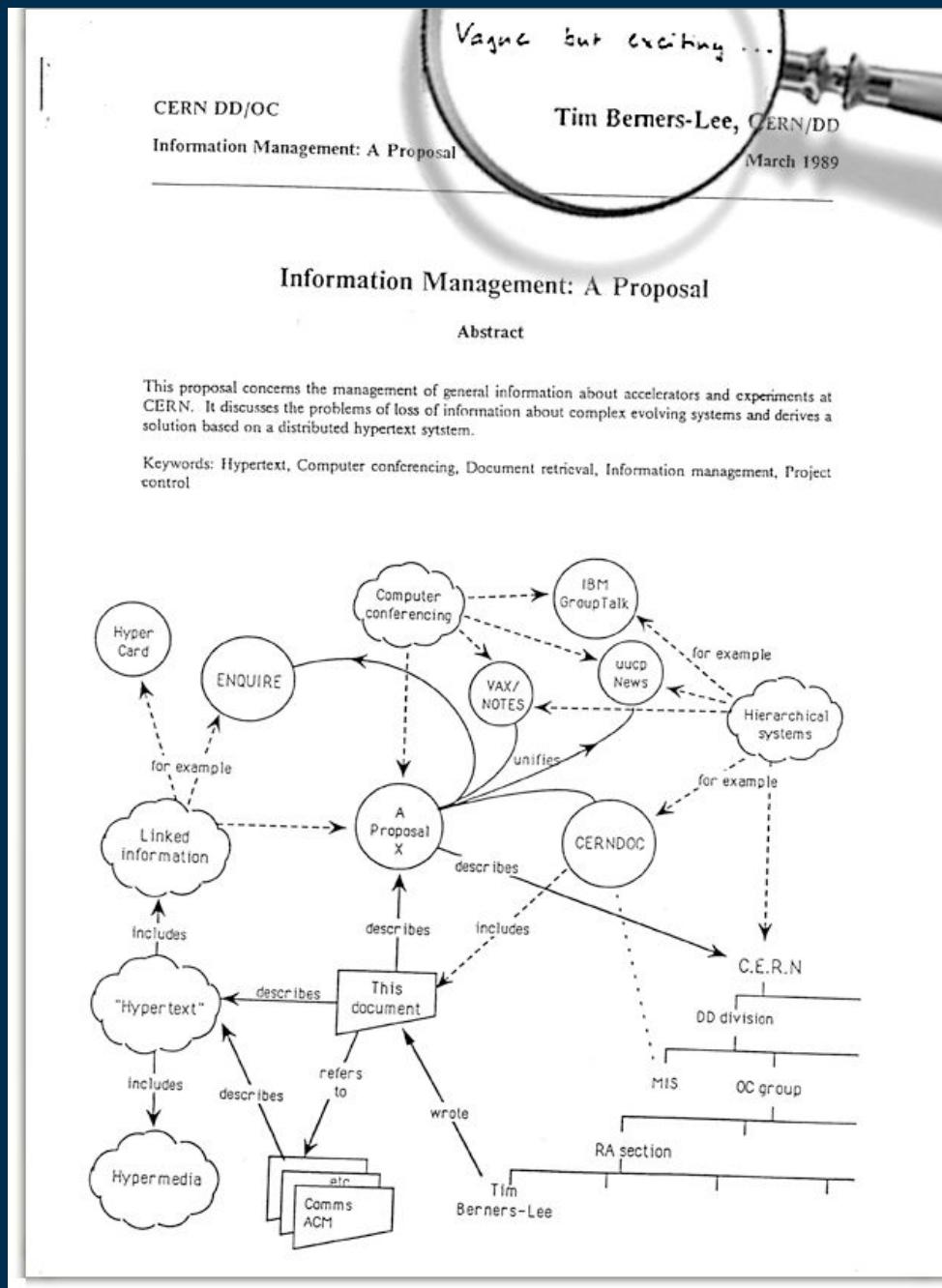
La historia de la web

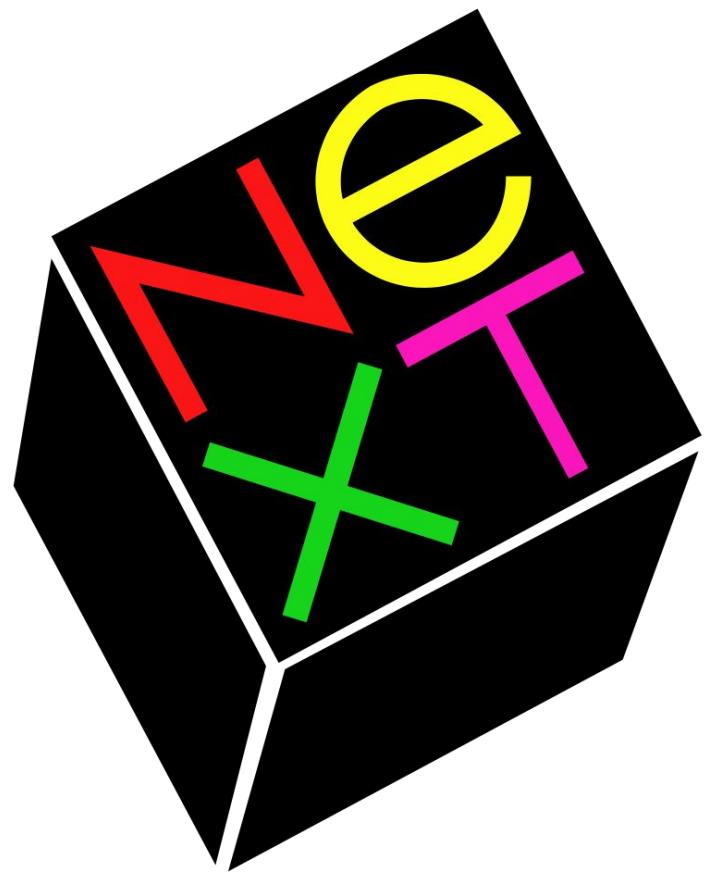
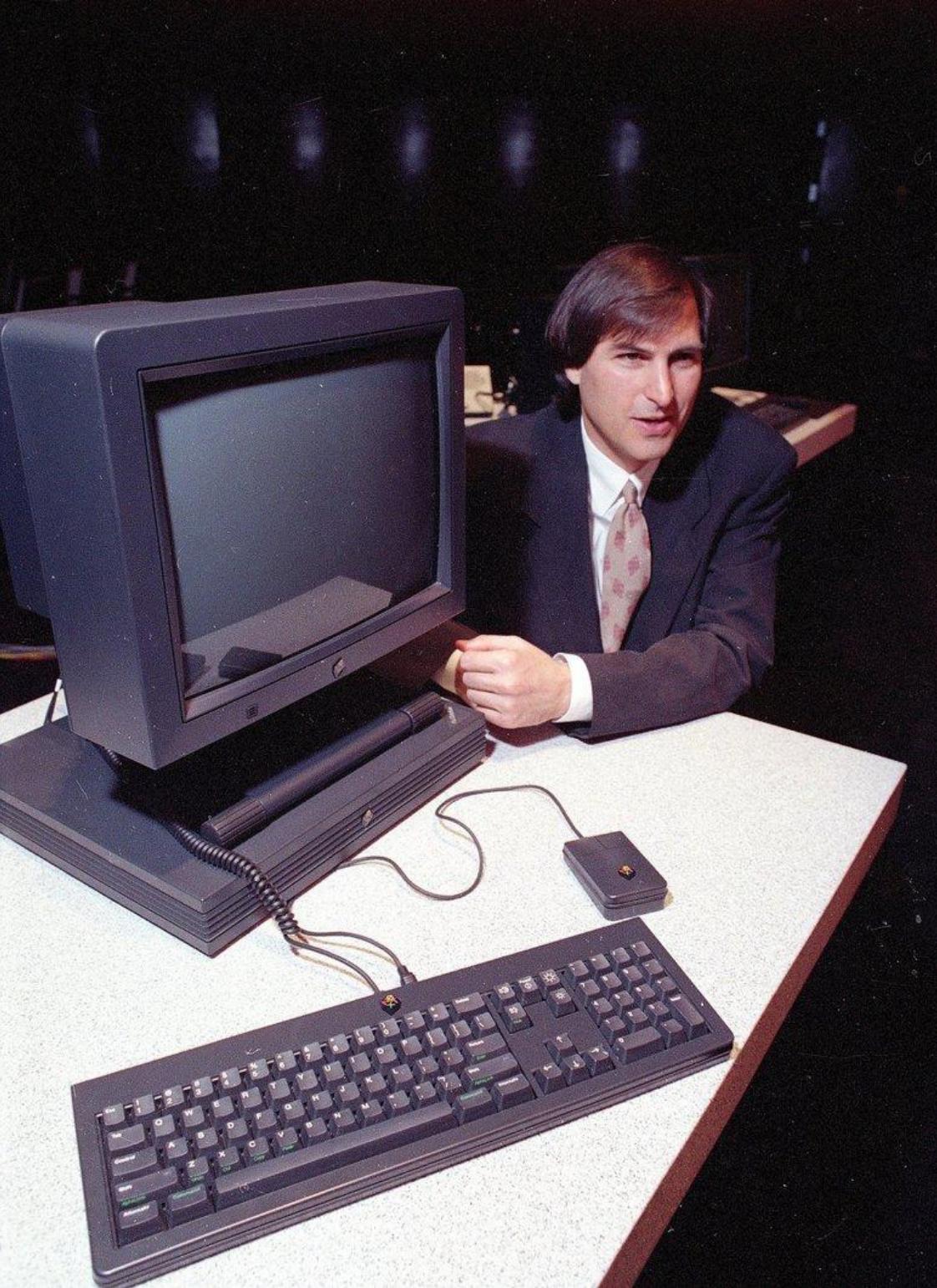
El primer desarrollador web

Tim Berners-Lee



© Imago/Leemage/CERN





Tim había escrito las tres tecnologías fundamentales que siguen siendo la base de la web actual.

- **HTML:** HyperText Markup Language.
El lenguaje de marcado (formato) para la web.
- **URL:** Uniform Resource Locator. Un tipo de "dirección" que es única y que se utiliza para identificar cada recurso en la web.
- **HTTP:** Hypertext Transfer Protocol.
Permite la recuperación de recursos vinculados de toda la web.

La primer página web

World Wide Web

The WorldWideWeb (W3) is a wide-area [hypermedia](#) information retrieval initiative aiming to give universal access to a large universe of documents.

Everything there is online about W3 is linked directly or indirectly to this document, including an [executive summary](#) of the project, [Mailing lists](#) , [Policy](#) , November's [W3 news](#) , [Frequently Asked Questions](#) .

What's out there?

Pointers to the world's online information, [subjects](#) , [W3 servers](#), etc.

Help

on the browser you are using

Software Products

A list of W3 project components and their current state. (e.g. [Line Mode](#) ,[X11 Viola](#) ,[NeXTStep](#) ,[Servers](#) ,[Tools](#) ,[Mail robot](#) ,[Library](#).)

Technical

Details of protocols, formats, program internals etc

Bibliography

Paper documentation on W3 and references.

People

A list of some people involved in the project.

History

A summary of the history of the project.

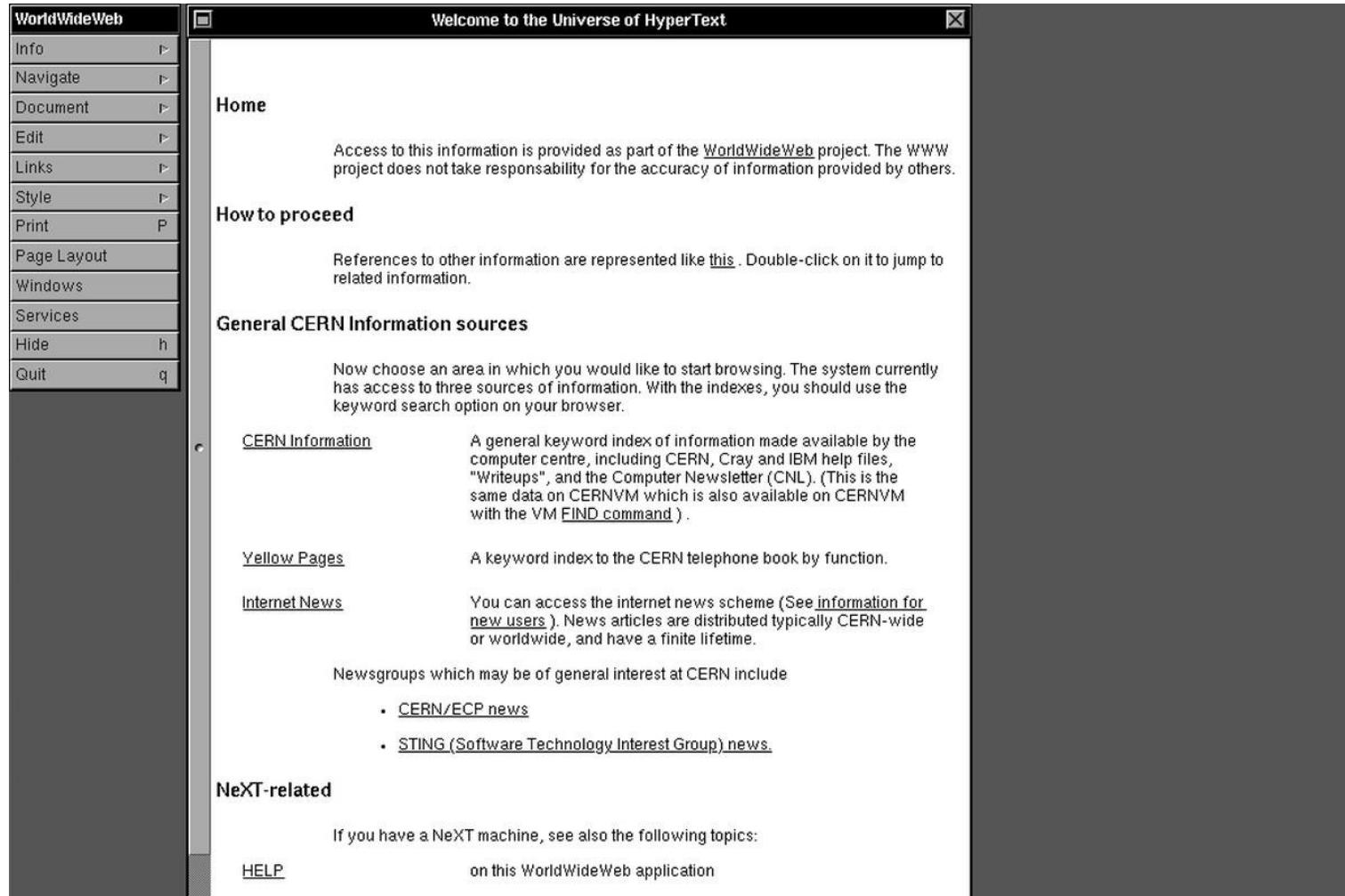
How can I help ?

If you would like to support the web..

Getting code

Getting the code by [anonymous FTP](#) , etc.

World Wide Web browser



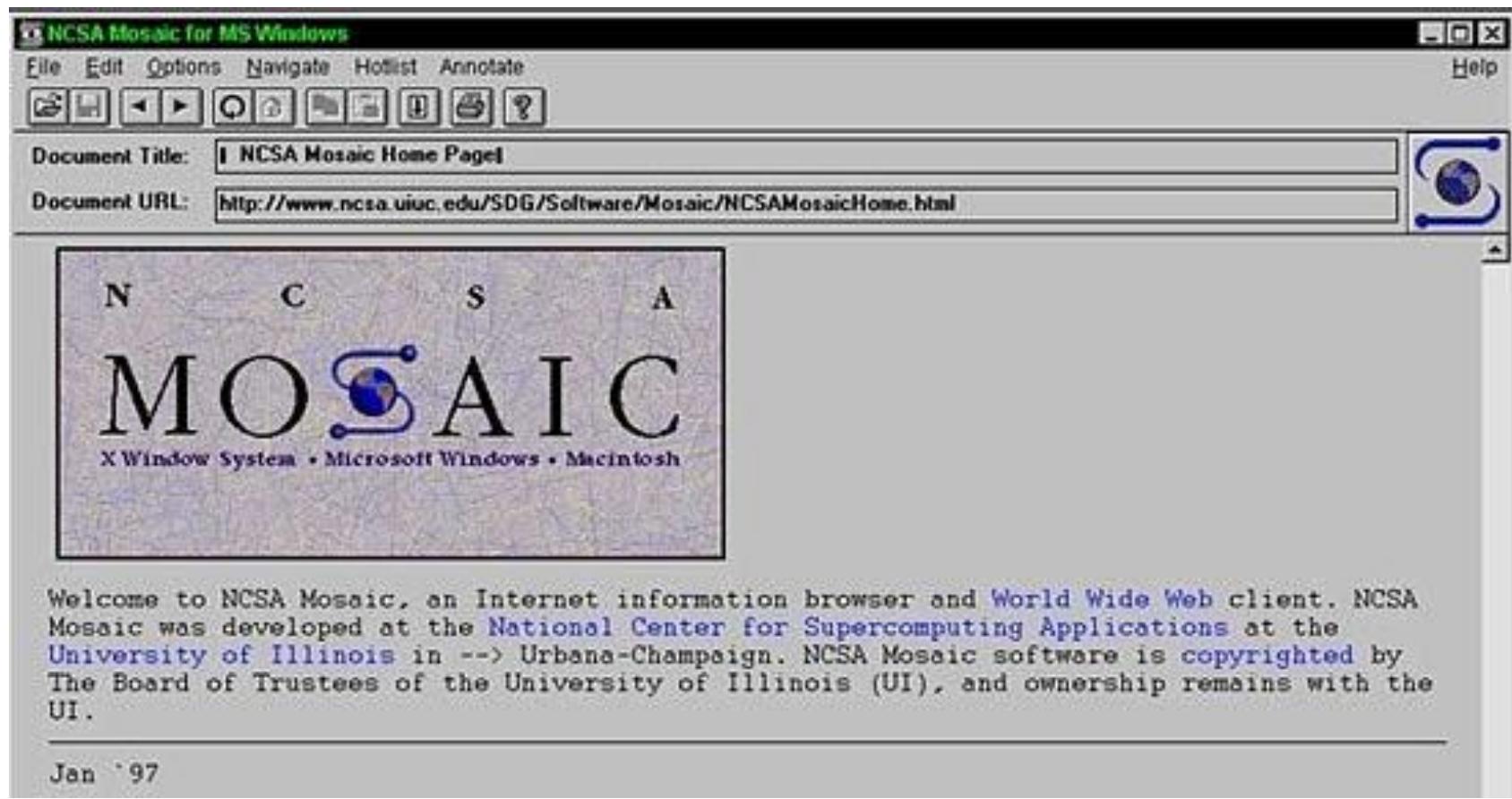
W3C

World Wide Web consortium



Web browser

Mosaic



Welcome to NCSA Mosaic, an Internet information browser and World Wide Web client. NCSA Mosaic was developed at the National Center for Supercomputing Applications at the University of Illinois in Urbana-Champaign. NCSA Mosaic software is copyrighted by The Board of Trustees of the University of Illinois (UI), and ownership remains with the UI.

Jan '97

IBM WebExplorer - IBM HCSD Software Updates

File Options Configure Navigate QuickList Help Links

Back Forward Home Edit Reload Images Open Print Find Stop

Location: about:

What's New? What's Cool? Destinations Net Search People Software

Software Updates

Last updated March 1, 2005

What's available here

OS/2 Convenience Package Fix Packs available from Passport Advantage	2005/03/01
OS/2 TCP/IP v4.3 Fix Pack available from Passport Advantage	2004/05/26
OS/2 MPTS Fix Pack available from Passport Advantage	2004/05/26
OS/2 Warp Server for e-Business Server Fix Pack available from Passport Advantage	2004/05/26

OS/2 Convenience Package Fix Packs from Passport Advantage

Netscape - [Version 3.04Gold]

File Edit View Go Bookmarks Options Directory Window Help

Back Forward Home Edit Reload Images Open Print Find Stop

Location: about:

What's New? What's Cool? Destinations Net Search People Software

Netscape Navigator™ Version 3.04Gold

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Microsoft Internet Explorer Home Page - Microsoft Internet Explorer

File Edit View Go Favorites Help

Address: file:C:\Program Files\Plus!\Microsoft Internet\docs\home.htm

Microsoft Internet Explorer

Thank you for using Microsoft Internet Explorer on Windows NT 4.0

You can use Microsoft Internet Explorer to browse Web pages on your local network and/or on the Internet

To browse Web pages on your local network, type the computer name of the Web server in the address box at the top of this browser. For example if the server is named \CorpNet, type: **CorpNet**

Start Microsoft Internet Ex... 2:18 PM

Wikipedysta:Amgine/monobook.css – Wikinews – Mozilla

Back Forward Reload Stop W http://pl.wikinews.org/wiki/Wikipedysta:Amgine/monobook.css Search Print

Home Bookmarks Article Ideas Main Page - Wikinews Wikimedia Banking Tools Sailing H-SPHERE Saewyc Portal PHP Mac >

W Create an account or log in ... W W W W W Revolutionary Armed Forces ... x

wikireporter dyskusja edytuj historia przenieś obserwuj

Wikipedysta:Amgine/monobook.css

Wikipedysta:Amgine

Note: After saving, you have to clear your browser cache to see the changes: Mozilla: click Reload (or Ctrl-R), IE / Opera: Ctrl-F5, Safari: Cmd-R, Konqueror Ctrl-R.

```
/* Wikinews CSS v0.6 */  
/* Last update: 7th March UTC */  
/* ----- */  
/* This skin works under Opera */  
/* and Gecko browsers. There are */  
/* glitches under IE, and I'm */  
/* not sure about other browsers */  
/* so if anyone could send me */  
/* screenshots of this layout on */  
/* Mac and Linux browsers, it'd */  
/* be appreciated. */  
/* ----- */  
  
/* If you want to use this skin in your CSS, just paste the */  
@import "http://pl.wikinews.org/w/index.php?title=Wikipedysta:Amgine/monobook.css";  
  
This will allow me to make changes in the skin, so that you can  
/*
```

```
body {  
background: white !important;  
}  
h1, h2, h3, h4, h5, h6 {  
border-bottom: 1px solid #B8D2F7;  
font-family: verdana;  
}  
a {
```

File Edit View History Bookmarks Window Help

RSS gigazine

GIGAZINE - 2007 6 11

About Safari

Safari

Version 3.0 (522.11.3)

Copyright © 2007 Apple Inc. All Rights Reserved.

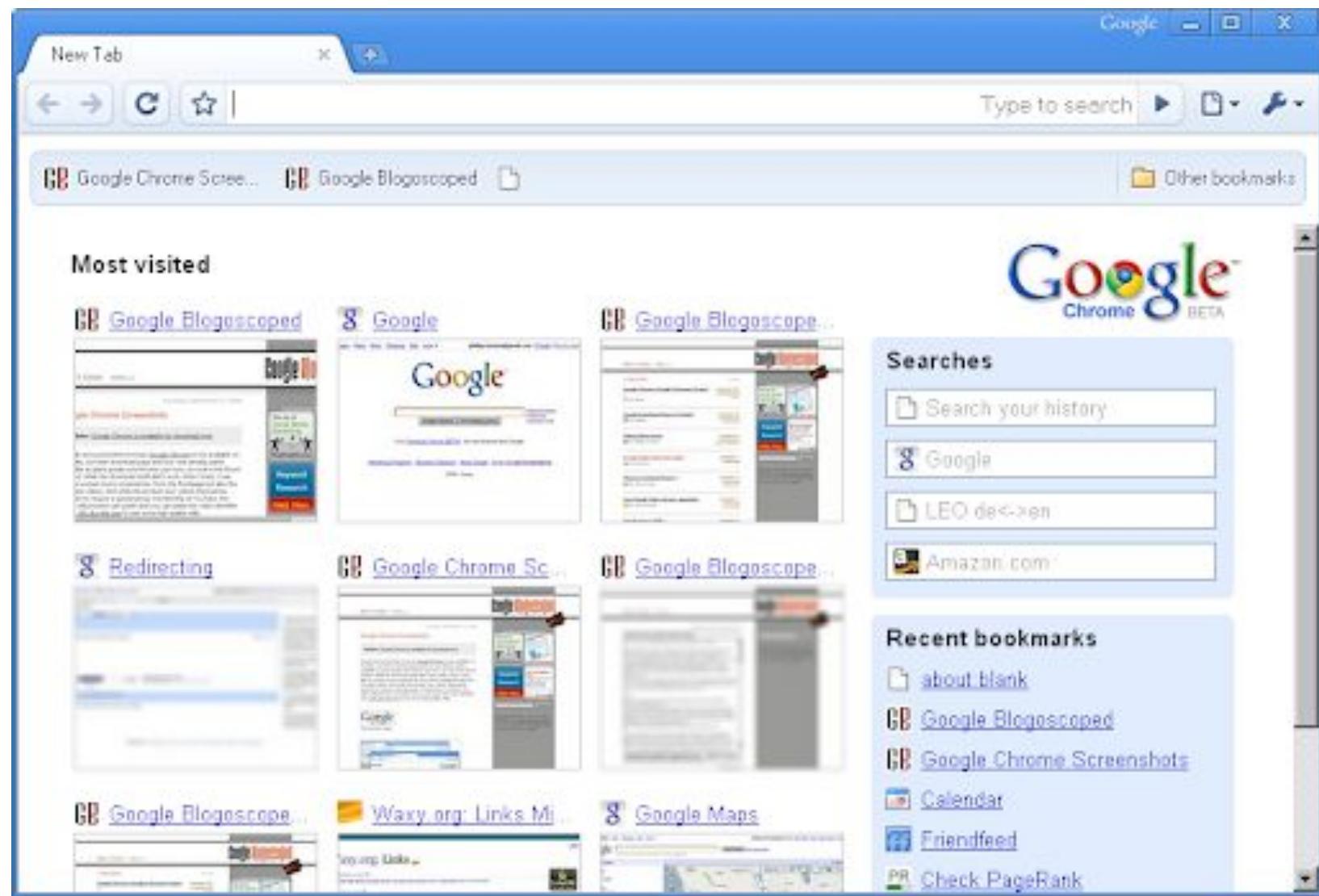
2007 06 11 18 01 00

Web gigazine.net

Powered by livedoor®

ex-e-allweb.com

Ads by Google



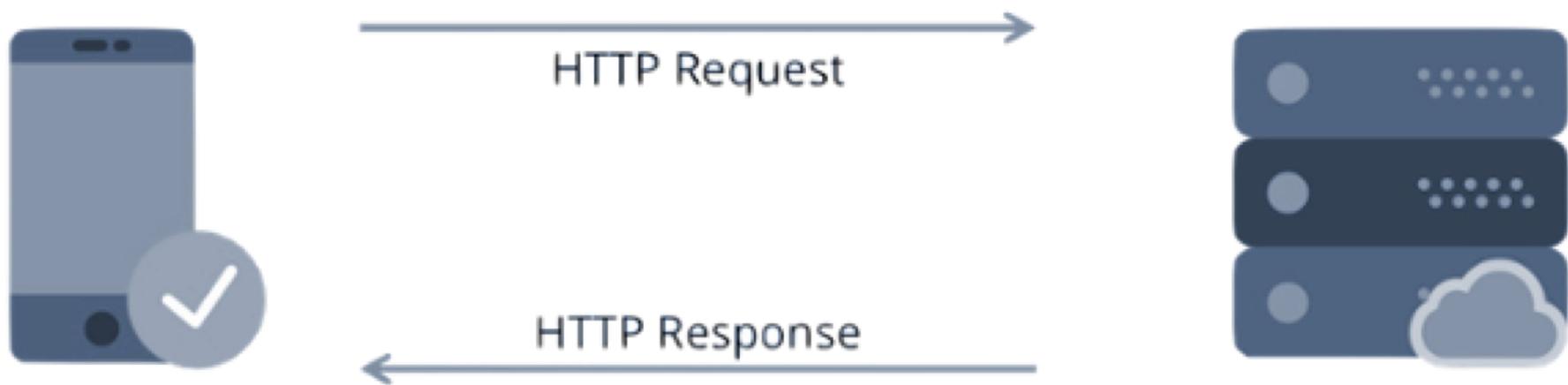
HTTP / HTTPS

HTTP

Hypertext Transfer Protocol



HTTP



HTTP Methods

Method	Descripción
GET	Solicita datos
POST	Envía datos
PUT	Crea o reemplaza datos
DELETE	Borra datos específicos

HTTPS

Hypertext Transfer Protocol Secure

http

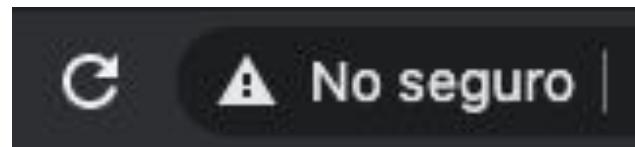
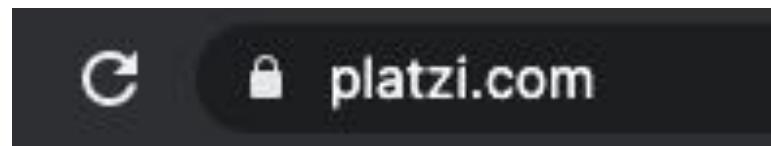


https



HTTPS

Hypertext Transfer Protocol Secure



HTTPS

Hypertext Transfer Protocol Secure

HTTP vs HTTPS



Estándares web

La guerra de los navegadores





HTML

HTML





CSS

CSS





JavaScript

JS





HTML



CSS



JAVASCRIPT

WebAssembly

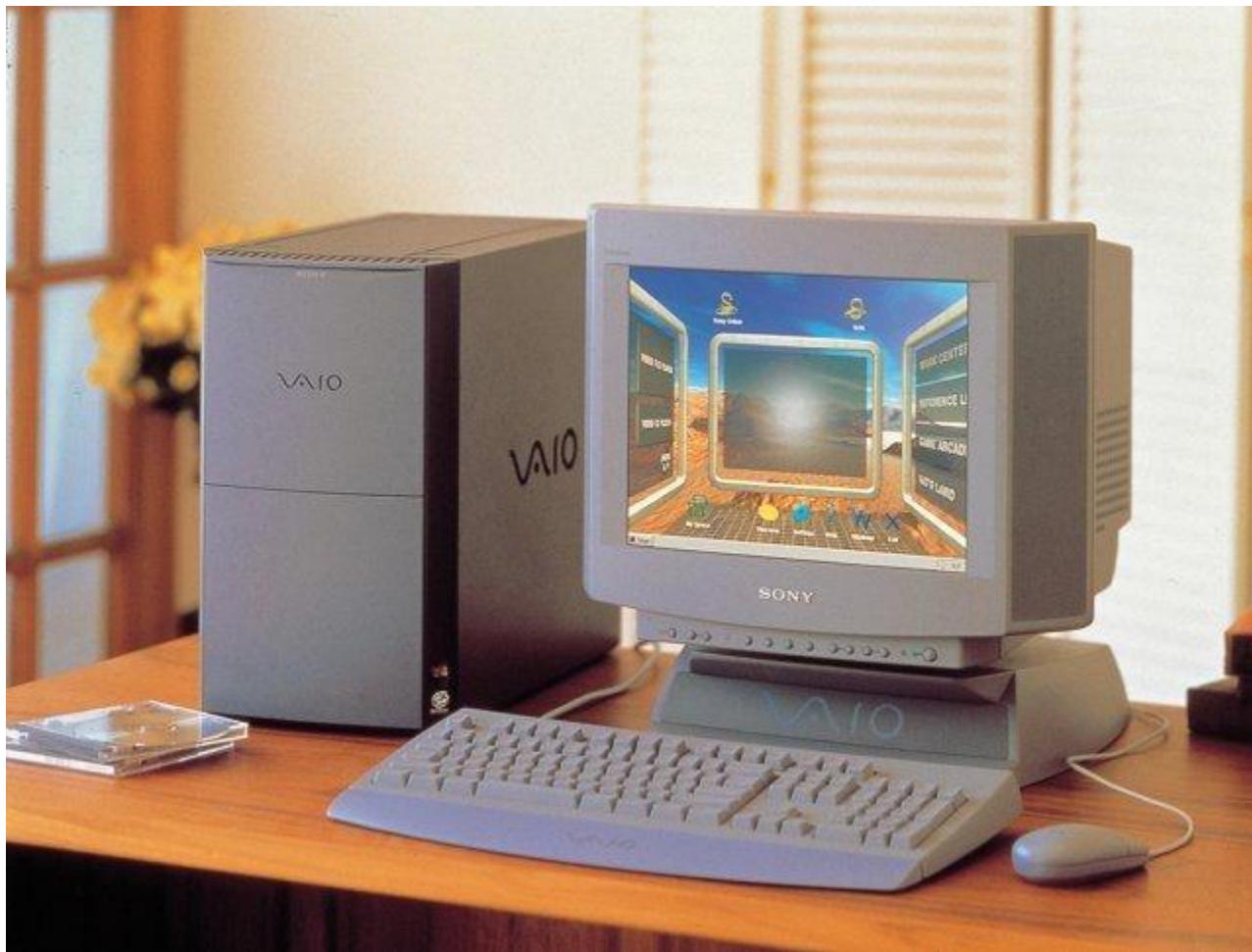


La web moderna

Multiplataforma

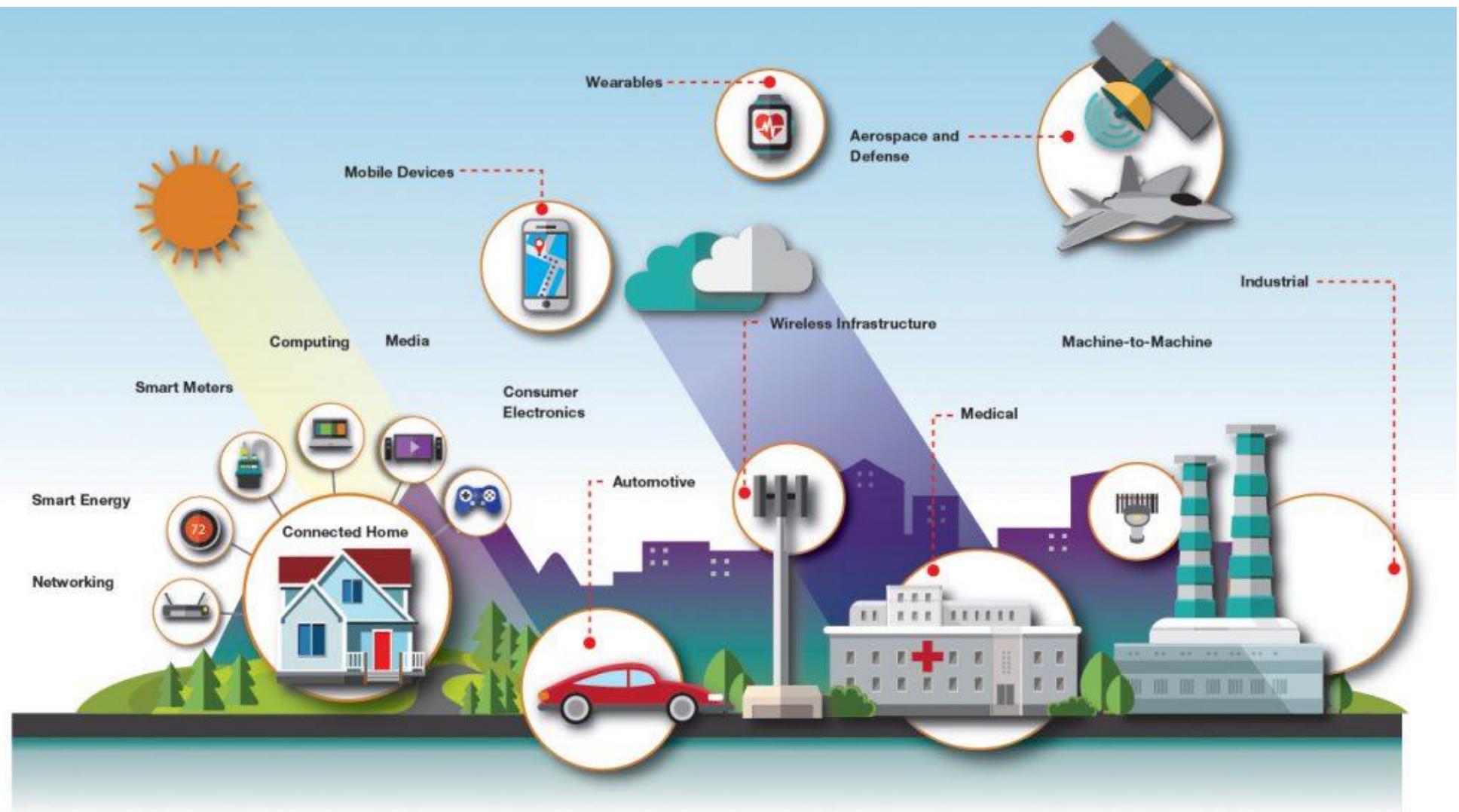
Estado actual

+ 4,000 millones de dispositivos móviles conectados a Internet = más de la mitad de la humanidad.

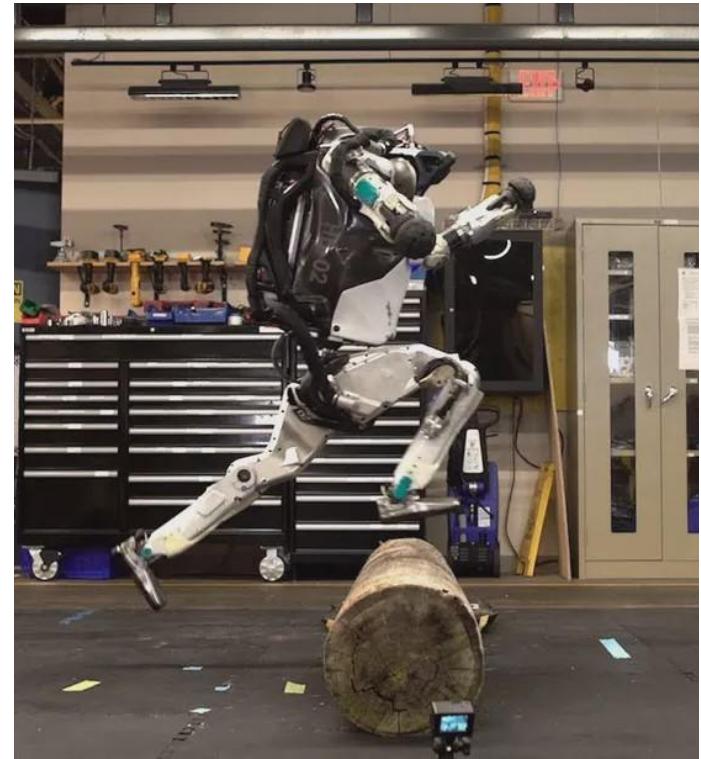




Internet of things



Machine learning & artificial intelligence

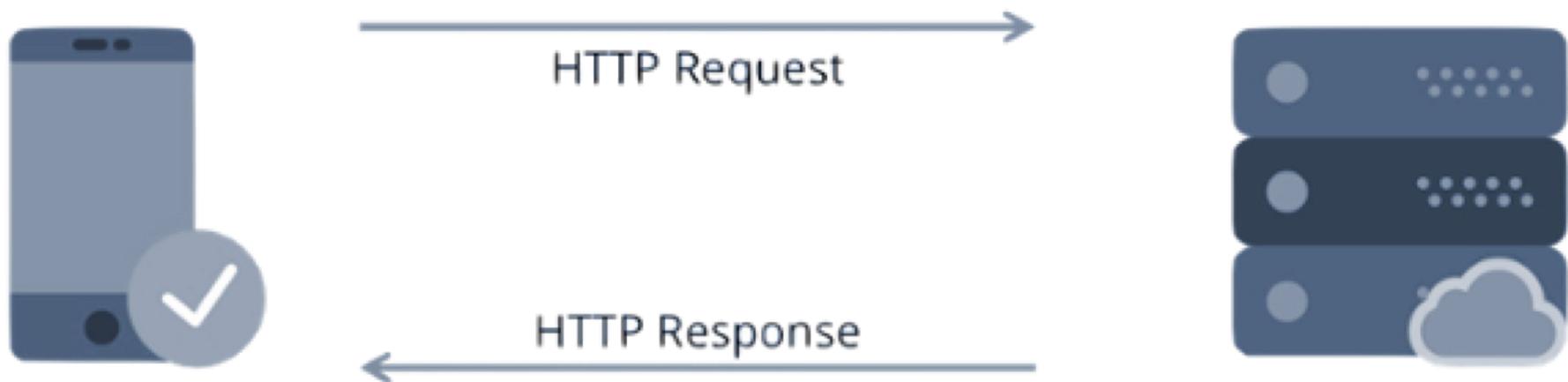


5G

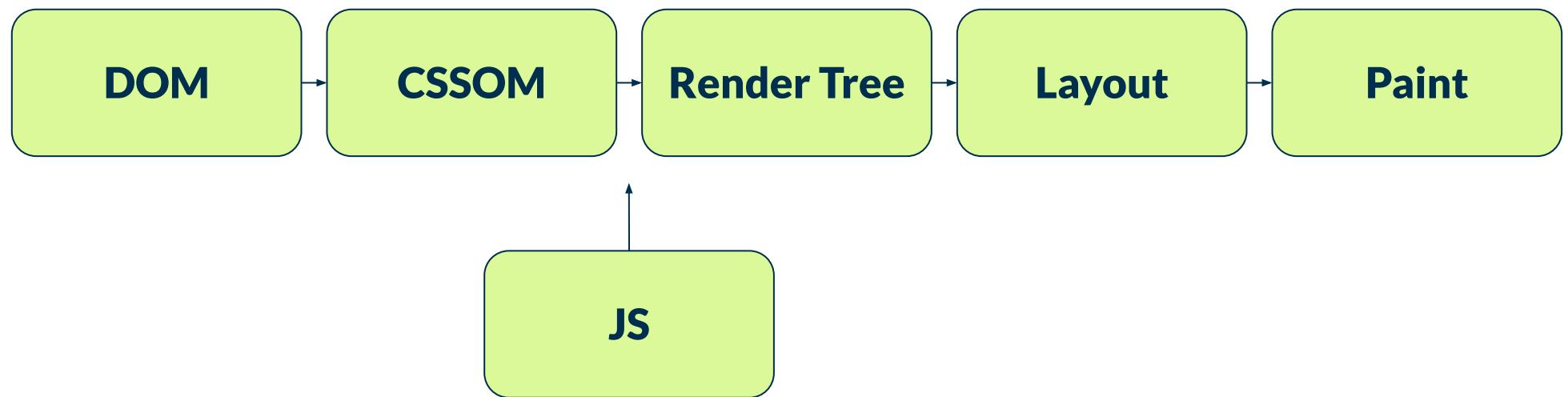


¿Cómo funciona
el navegador?

HTTP request



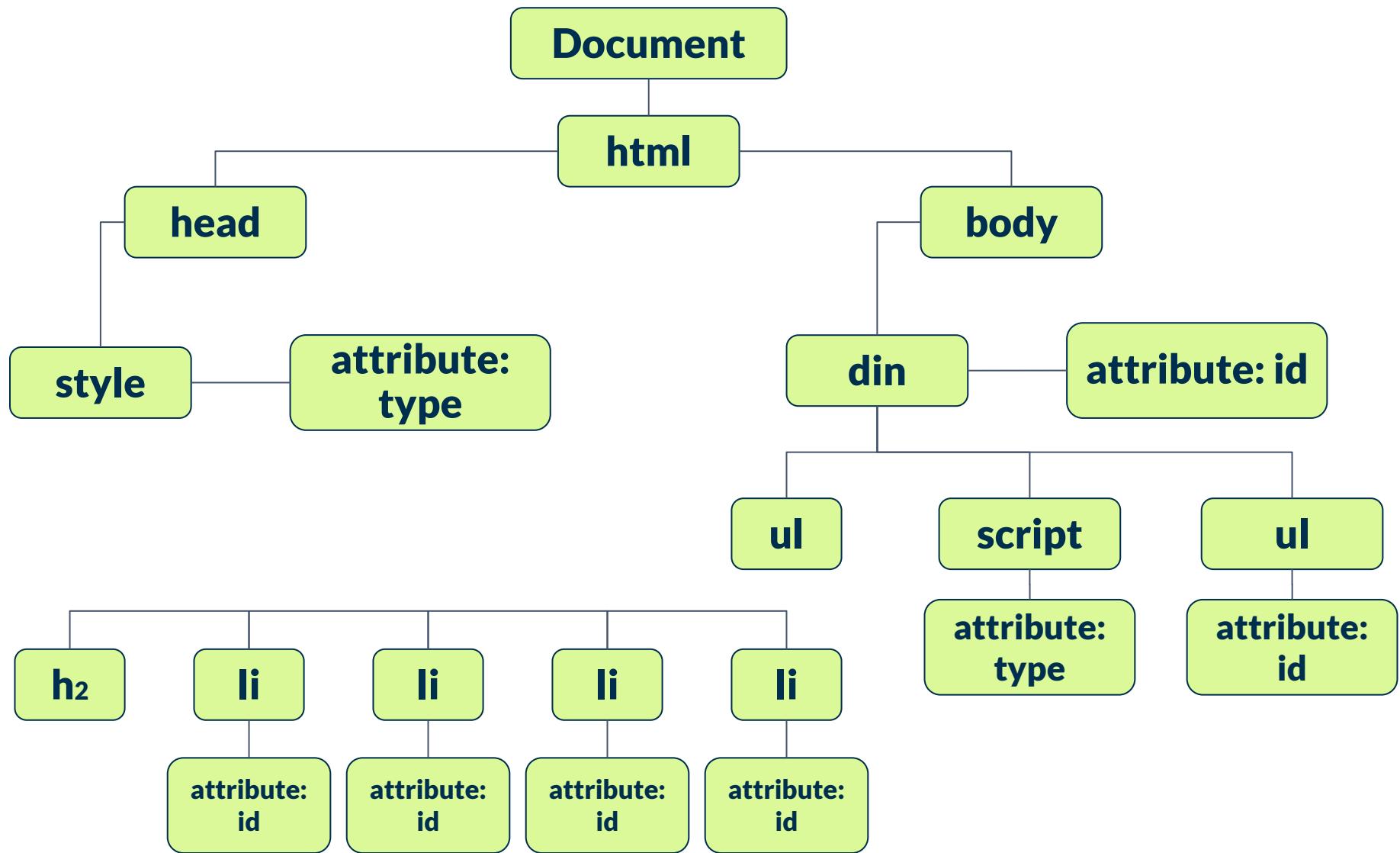
Critical Rendering Path



DOM

(Document Object Model)

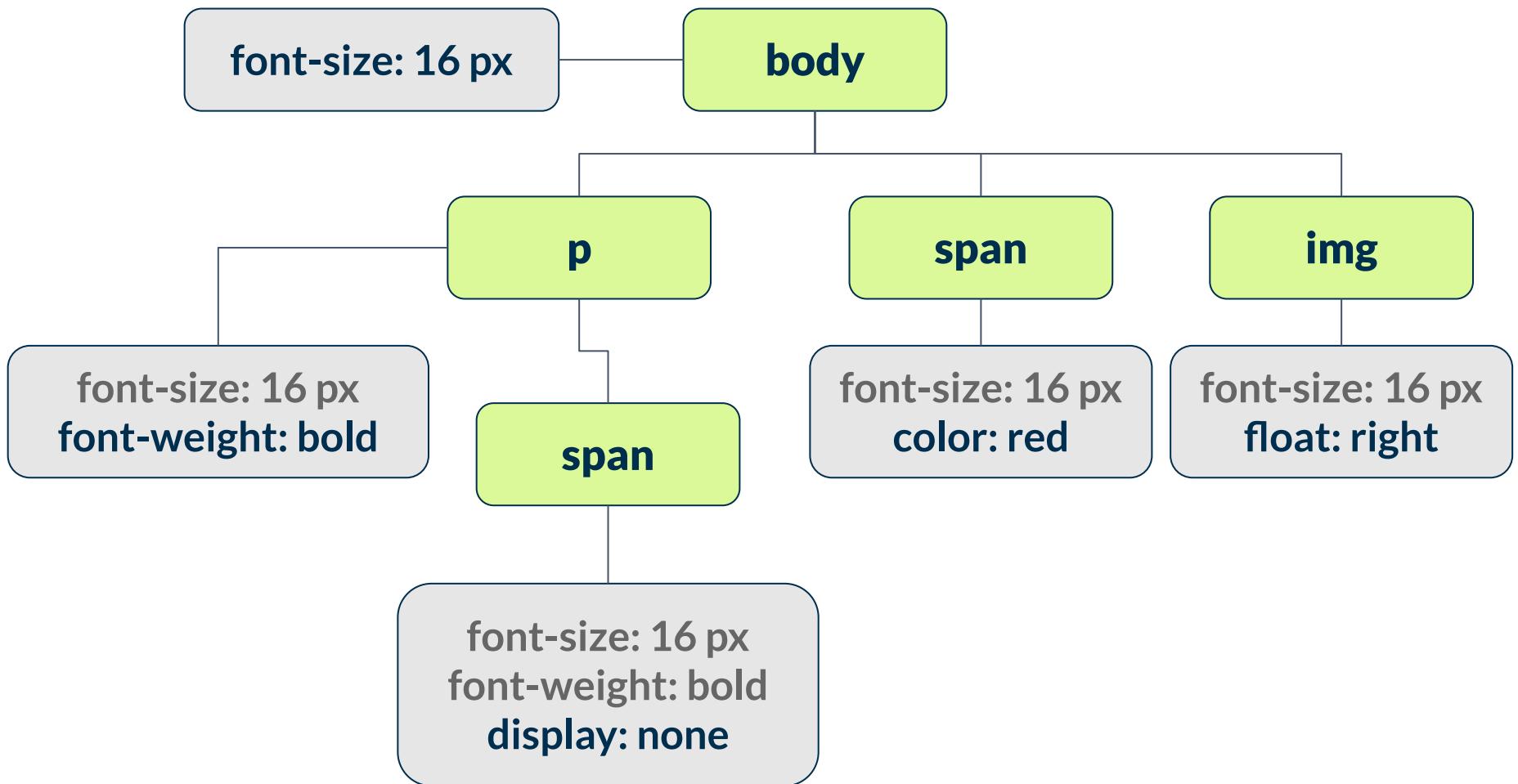




CSSOM

(CSS Object Model)

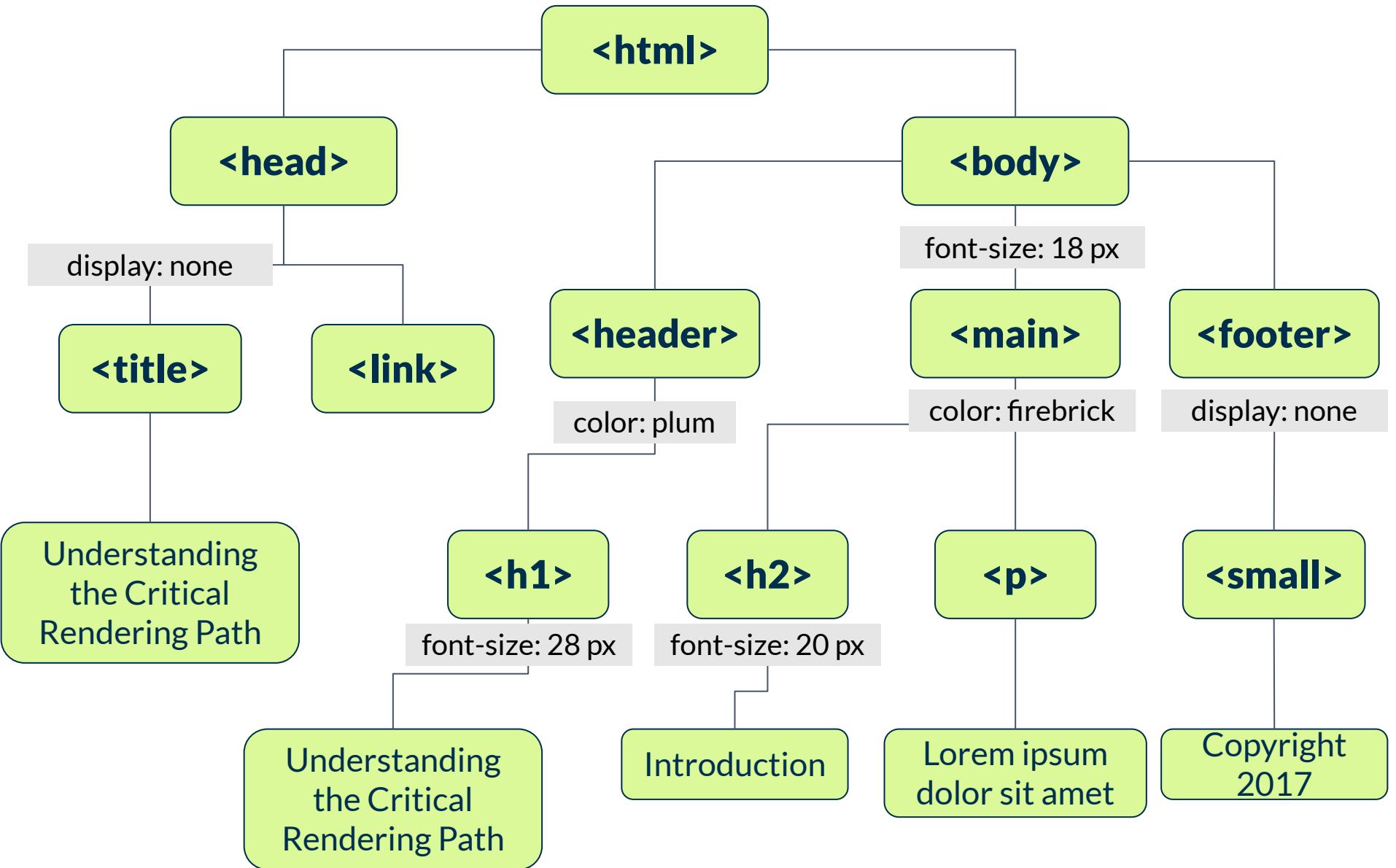




Render tree

DOM + CSSOM





Layout

Layout

Company logo and slogan

Header

Navigation

Quick links

About

Quick links

Site plan and copyright info

Paint

Paint

We All Make Mistakes.

Auto Home Life

Get a quote

Protections from all sides

Auto

Home

Life

Get a quote

Get a quote

Get a quote

Our Customers

Coverage

Order

History

Contact

Auto

Create

Culture

Support

Home

Manage

History

Locations

Life

Tack

Careers

Motorcycle

Cancel

Refund Policy

Renters

More

Stamps

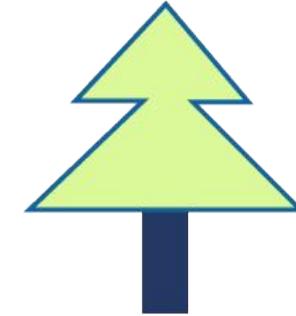
Facebook Twitter LinkedIn YouTube

JavaScript engine

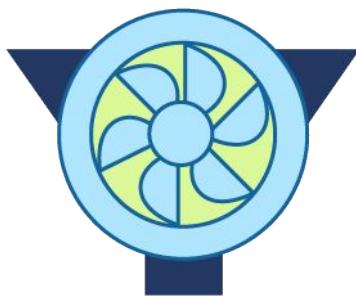
JS

Your great JavaScript

Parse it



Abstract Syntax Tree



Optimising Compiler

Interpreter

Machine code → Bytecode

Cierre del curso



@degranda10



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