

Personalități din Domeniul Informaticii

Prezentare de Larisa-Andreea

**Cât de vechi este domeniul
informaticii?**

**Răspuns: Originile informaticii
datează încă din preistorie
(deoarece informatica este puternic
corelată cu matematica).**

Preistorie

Pentru a susține în mod corespunzător ritualurile de fertilitate și pentru recoltă din perioada primăverii sau a toamnei, șamanii triburilor aveau nevoie de metode de a măsura trecerea timpului. Din tradiția șamanistă, omul a dezvoltat primele mecanisme primitive de numărare: cu bețele sau desene rupestre etc...

Counting: The Shaman

- Man started off by counting on his digits. He needed ways to measure the months and the seasons in order to perform religious festivals and ceremonies at the correct time.

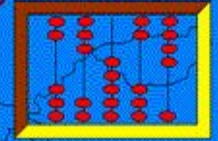


Abacul, primul “calculator automat”

Apărut
pe vremea Babilonului (cca.
2700-2300 î.Hr.).

The Abacus: The First "Automatic" Computer

The abacus, the most common of which comes from China, was man's first attempt at automating the counting process. The abacus is not really an automatic machine; it is more a machine which allows the user to remember his current state of calculation while performing more complex mathematical operations than could be performed on hands and feet alone.



Mecanismul de la Antikythera

Este considerat a fi un calculator mecanic antic realizat pentru determinarea pozițiilor astronomice.



Antichitate

Grecii antici au inventat numeroase formule și teoreme matematice, dar toate trebuiau lucrate manual.



Forefathers of the Modern Computer



Gottfried Wilhelm
von Leibniz
(1646. - 1716)



Charles Babbage
(1812 - 1833)



Blaise Pascal
(1623-1662)

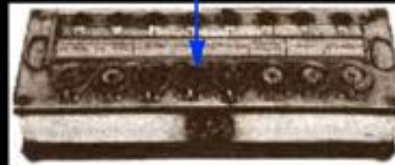
Three early individuals who
pioneered the concepts
which made modern day
computing possible.

Blaise Pascal (19 Junie 1623 - 19 August 1662)



A a B b C c D d E e F f G g H h I i J j K k L l M m N n

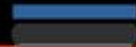
Pascal's Gear System



Pascal's Computer: The Pascaline

A one-tooth gear engages its single tooth with a ten-teeth gear once every time it revolves; the result will be that it must make ten revolutions in order to rotate the ten-teeth gear once.

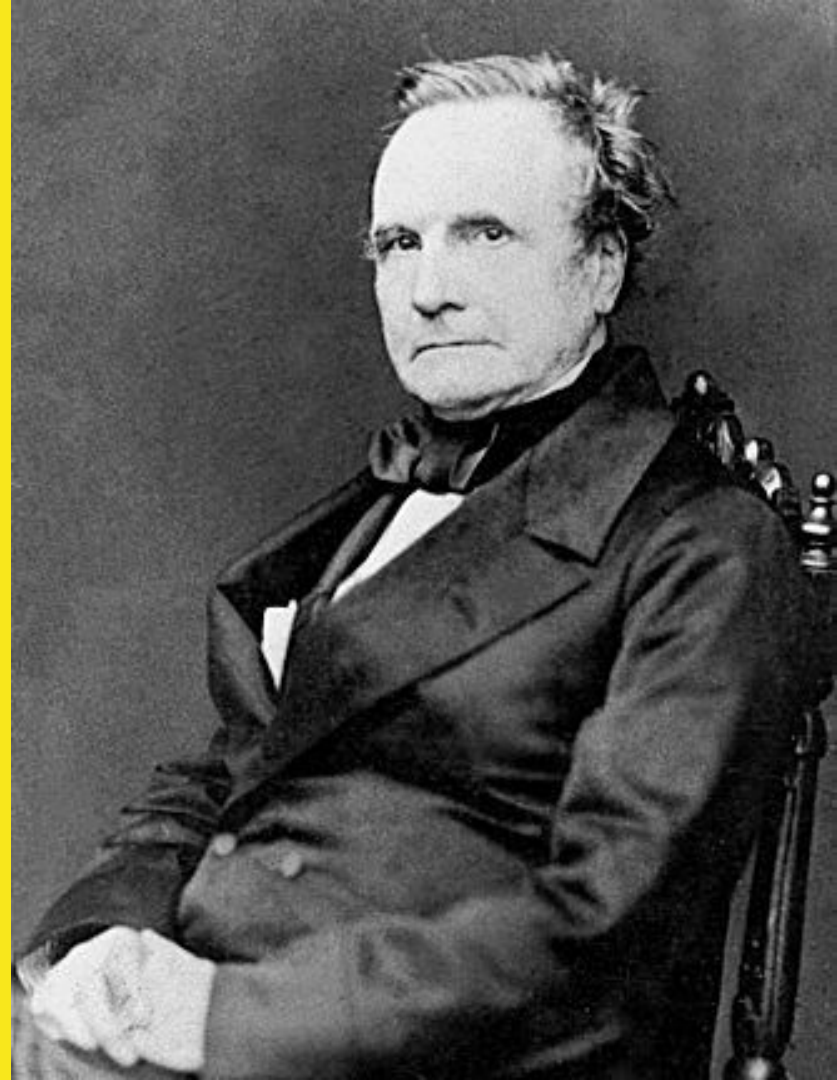
This is the way that an odometer works for counting kilometers. The one-tooth gear is large enough so that it only engages the next size gear after 1 km has passed.



Charles Babbage

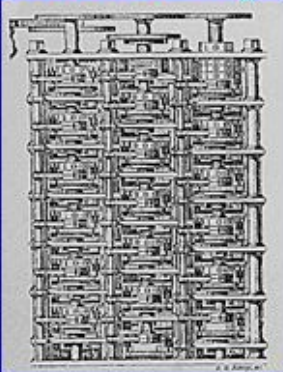
(26 Dec 1791 - 18 Oct 1871)

A realizat că multe dintre calculele complexe constau în operații care se repetau în mod frecvent.




Motorul Diferențial

Calculează funcțiile
polinomiale.



Difference Engine



Charles Babbage

- Never built
- Steam-driven
- Fully automatic
- Next idea was the Analytical Engine

Modul de funcționare al Mașinii Diferențiale

$$n^2+n+41$$

**Şirul rezultat: 41, 43, 47, 53,
61...**

**Diferența dintre termenii
consecutivi: 2, 4, 6, 8...**

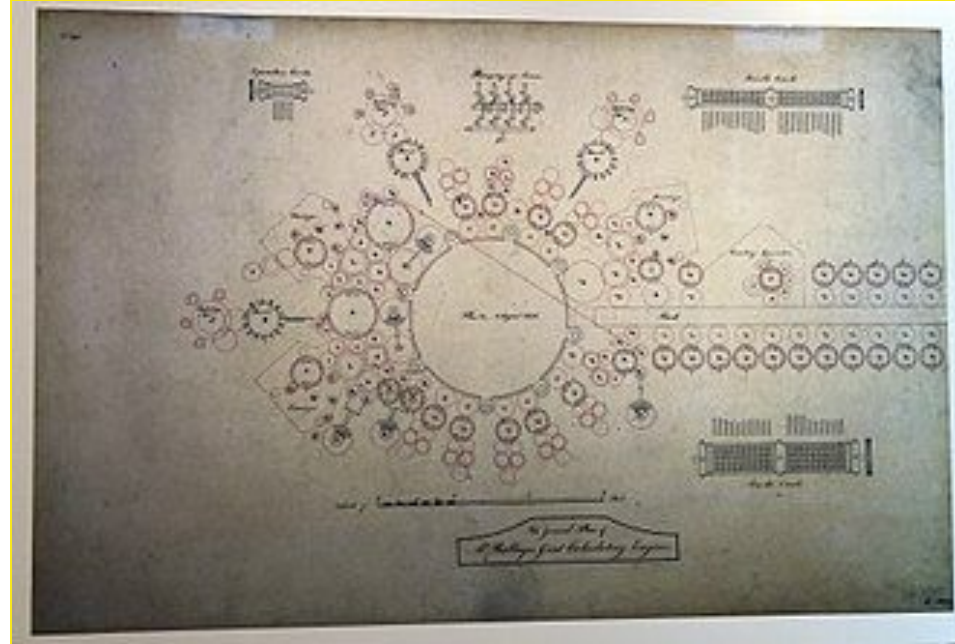
**Diferența dintre termenii
șirului superior: 2, 2, 2, 2...**

**Input pentru Mașina
Diferențială: 2, 0, 41**

**Primul şir generat de
maşină: $2, (0+2), [41+(0+2)]$;
adică $2, 2, 43$.**

Mașina Analitică

Este înaintașul computerului electric modern, fiind Turing echivalentă.



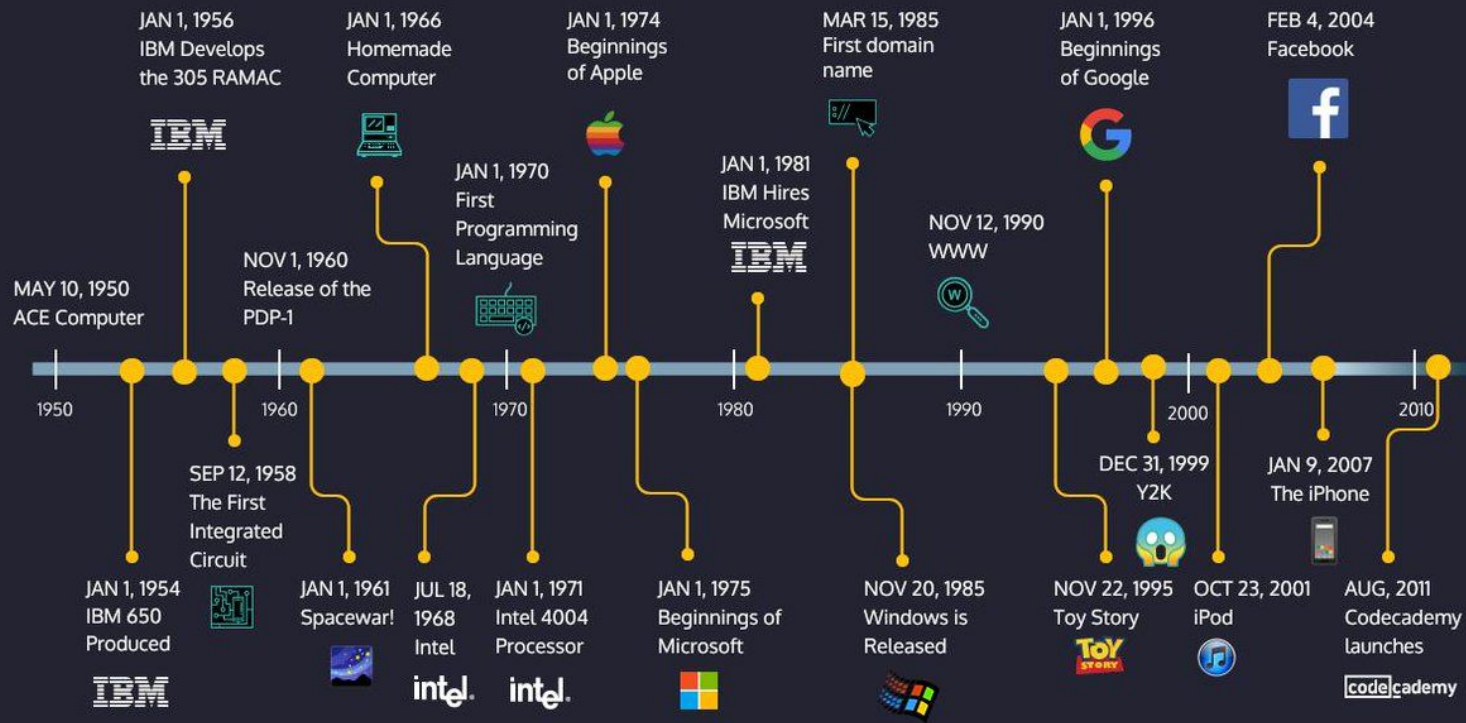
A portrait of a woman in a light purple dress with a dark floral pattern, holding a large black parasol and a yellow object. She has a floral headpiece and a long veil.

Diagram for the computation by the Engine of the Numbers of Bernoulli. See Note G. (page 722 et seq.)

Number of Operation.	Nature of Operation.	Variables acted upon.	Variables receiving results.	Indication of change in the value on any Variable.	Statement of Results.	Data.										Working Variables.										Result Variables.										
						ν_1	ν_2	ν_3	ν_4	ν_5	ν_6	ν_7	ν_8	ν_9	ν_{10}	ν_{11}	ν_{12}	ν_{13}	ν_{14}	ν_{15}	ν_{16}	ν_{17}	ν_{18}	ν_{19}	ν_{20}	ν_{21}	ν_{22}	ν_{23}	ν_{24}	ν_{25}	ν_{26}	ν_{27}	ν_{28}	ν_{29}	ν_{30}	
						0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
						1	2	n																												
1	\times	$\nu_6 \times \nu_5$	ν_6, ν_5, ν_6	$\nu_6 = \nu_2$	$= 2n$...	2	n	2n	2n	2n																									
2	-	$\nu_6 - \nu_1$	ν_6	$\nu_6 = \nu_1$	$= 2n - 1$	1	...	2n - 1																												
3	+	$\nu_6 + \nu_1$	ν_6	$\nu_6 = \nu_1$	$= 2n + 1$	1	...	2n + 1																												
4	+	$\nu_6 + \nu_6$	ν_{11}	$\nu_6 = \nu_6$	$= 2n - 1$	...	...	0	0																										
5	+	$\nu_{11} + \nu_6$	ν_{11}	$\nu_{11} = \nu_6$	$= \frac{1}{2} 2n - 1$	...	2																												
6	-	$\nu_{11} - \nu_{11}$	ν_{12}	$\nu_{11} = \nu_{11}$	$= \frac{1}{2} 2n + 1 = A_0$...																														
7	-	$\nu_6 - \nu_1$	ν_{10}	$\nu_6 = \nu_1$	$= n - 1 (= 3)$	1	...	n - 1																												
8	+	$\nu_6 + \nu_6$	ν_2	$\nu_6 = \nu_2$	$= 2 + 0 = 2$	...	2																												
9	+	$\nu_6 + \nu_6$	ν_{11}	$\nu_6 = \nu_6$	$= \frac{2n}{2} = A_1$	...	2																												
10	\times	$\nu_{11} \times \nu_{11}$	ν_{12}	$\nu_{11} = \nu_{11}$	$= B_1 \cdot \frac{2n}{2} = B_1 A_1$...																														
11	+	$\nu_{12} + \nu_{12}$	ν_{13}	$\nu_{12} = \nu_{12}$	$= -\frac{1}{2} 2n - 1 + B_1 \cdot \frac{2n}{2}$...																														
12	-	$\nu_{12} - \nu_1$	ν_{10}	$\nu_{12} = \nu_1$	$= n - 2 (= 2)$	1	...	n - 2																												
13	+	$\nu_6 - \nu_1$	ν_6	$\nu_6 = \nu_1$	$= 2n - 1$	1	...	2n - 1																												
14	+	$\nu_6 + \nu_2$	ν_2	$\nu_6 = \nu_2$	$= 2 + 1 = 3$	...	3																												
15	+	$\nu_6 + \nu_6$	ν_6	$\nu_6 = \nu_6$	$= 2n - 1$	...	2n - 1	3																											
16	\times	$\nu_6 \times \nu_{11}$	ν_{11}	$\nu_6 = \nu_{11}$	$= \frac{2n}{2} \cdot \frac{2n - 1}{3}$	...	2n - 1	3																											
17	-	$\nu_6 - \nu_1$	ν_6	$\nu_6 = \nu_1$	$= 2n - 2$	1	...	2n - 2																												
18	+	$\nu_6 + \nu_6$	ν_6	$\nu_6 = \nu_6$	$= 3 + 1 = 4$	1	...	4																												
19	+	$\nu_6 + \nu_2$	ν_6	$\nu_6 = \nu_2$	$= 2n - 2$	...	2n - 2	4																											
20	\times	$\nu_6 \times \nu_{11}$	ν_{11}	$\nu_6 = \nu_{11}$	$= \frac{2n}{2} \cdot \frac{2n - 1}{3} = A_1$...																														
21	\times	$\nu_{12} \times \nu_{11}$	ν_{12}	$\nu_{12} = \nu_{11}$	$= B_1 \cdot \frac{2n - 1}{3} = B_1 A_1$...																														
22	+	$\nu_{12} + \nu_{12}$	ν_{13}	$\nu_{12} = \nu_{12}$	$= A_0 + B_1 A_1 + B_1 A_2$...																														
23	-	$\nu_{12} - \nu_1$	ν_{10}	$\nu_{12} = \nu_1$	$= n - 3 (= 1)$	1	...	n - 3																												

Here follows a repetition of Operations thirteen to twenty-three.

24	+	$\nu_{13} + \nu_{12}$	ν_{14}	$\nu_{13} = \nu_{12}$	$= B_2$	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
25	+	$\nu_1 + \nu_6$	ν_6	$\nu_1 = \nu_6$	$= n + 1 = 4 + 1 = 5$	1	...	n + 1																											...
				$\nu_6 = \nu_6$	by a Variable-card.																														...
				$\nu_1 = \nu_1$	by a Variable-card.																														...



Întrebări?

Mulumesc pentru Atenție!

Pentru Contact sau Posibile Întrebări: 