POVIJESNO VAŽNA RAČUNALA

ANTUN MATIJA FILIPOVIĆ

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HISTORICALLY IMPORTANT COMPUTERS

ANTUN MATIJA FILIPOVIĆ

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1937.

Model K zbrajalo

George Stibitz

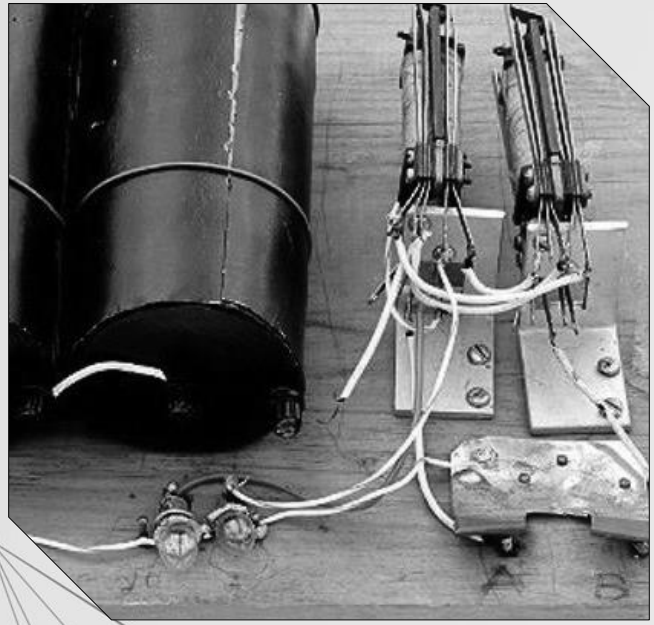
1937

Model K adder

George Stibitz

Model K zbrajalo

1937.



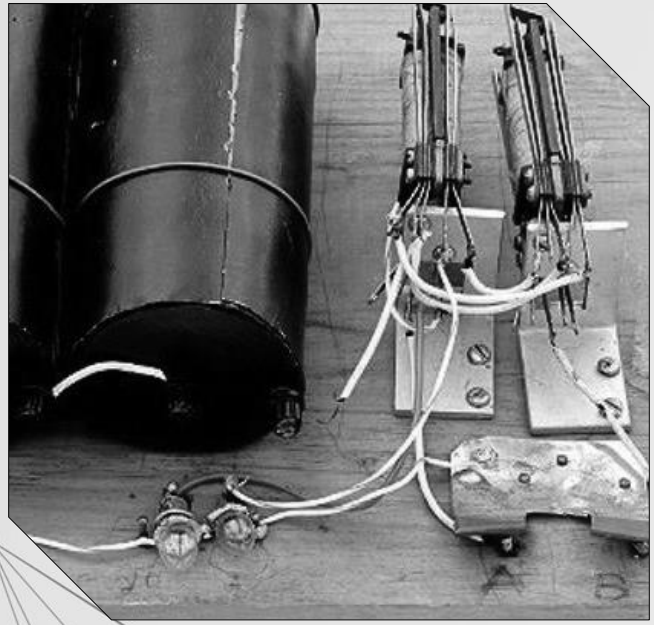
https://images.computerhistory.org/timeline/timeline_computers_1937.modelk.jpg

Znanstvenik Bell Laboratoriesa George Stibitz koristi releje za pokazno zbrajalo.

- nazvan Model K zbrajalo, jer ga je izgradio na svom kuhinjskom stolu
- ovaj jednostavan pokazni krug pruža dokaz koncepta za primjenu Booleove logike u dizajnu računala
- rezultat je bio uspješna izgradnja relejno temeljenog Model I Complex Calculatora u 1939.
- te iste godine u Njemačkoj je inženjer Konrad Zuse izgradio svoje Z2 računalo, također koristeći releje telefonske kompanije

Model K adder

1937



https://images.computerhistory.org/timeline/timeline_computers_1937.modelk.jpg

Bell Laboratories scientist George Stibitz uses relays for a demonstration adder.

- called the Model K adder, because he built it on his kitchen table
- this simple demonstration circuit provides proof of concept for applying Boolean logic to the design of computers
- the result was successful construction of the relay-based Model I Complex Calculator in 1939
- that same year in Germany engineer Konrad Zuse built his Z2 computer, also using telephone company relays

1941.

Z3 računalo

Konrad Zuse

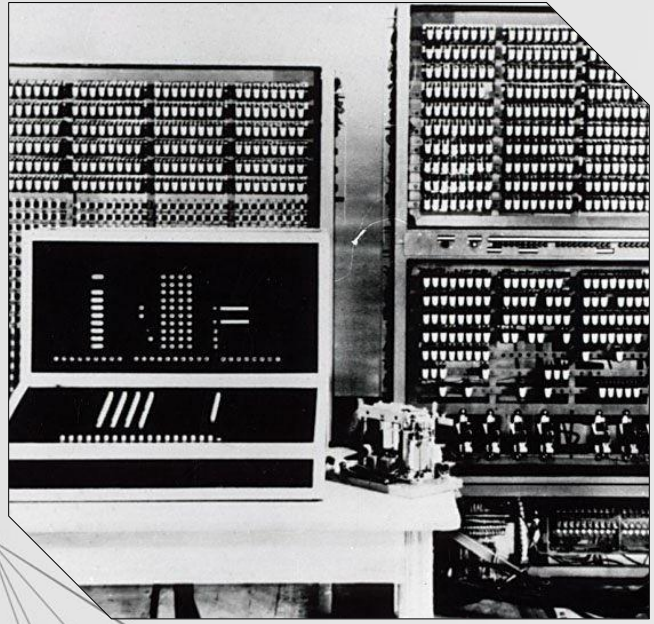
1941

Z3 computer

Konrad Zuse

Z3 računalo

1941.



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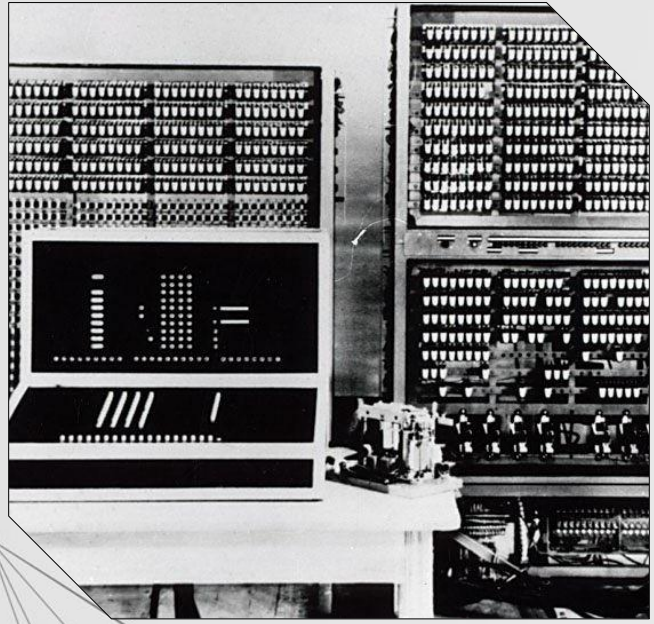
Konrad Zuse dovršava Z3 računalo.

- rano računalo koje je izgradio njemački inženjer Konrad Zuse radeći u potpunoj izolaciji od razvoja drugdje
- koristi 2.300 releja, izvodi binarnu aritmetiku s pomičnim zarezom i ima duljinu riječi od 22 bita
- koristilo se za aerodinamičke proračune, ali je uništeno u bombardiranju Berlina krajem 1943.
- Zuse je kasnije nadzirao rekonstrukciju Z3 šezdesetih godina, koja je trenutno izložena u Deutsches Museumu u Minhenu

Z3 computer

1941



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Konrad Zuse finishes the Z3 Computer.

- an early computer built by German engineer Konrad Zuse working in complete isolation from developments elsewhere
- uses 2,300 relays, performs floating point binary arithmetic, and has a 22-bit word length
- it was used for aerodynamic calculations, but was destroyed in a bombing raid on Berlin in late 1943
- Zuse later supervised a reconstruction of the Z3 in the 1960s, which is currently on display at the Deutsches Museum in Munich

1944.

Colossus računalo

Tommy Flowers

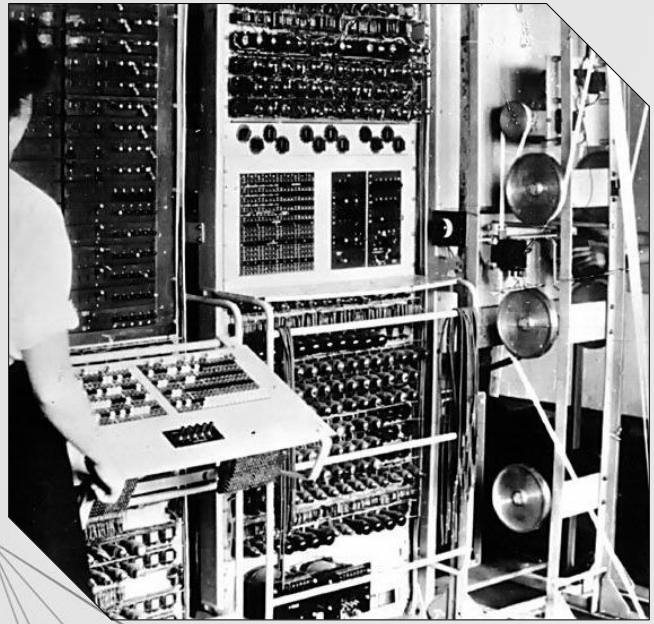
1944

Colossus computer

Tommy Flowers

Colossus računalo

1944.



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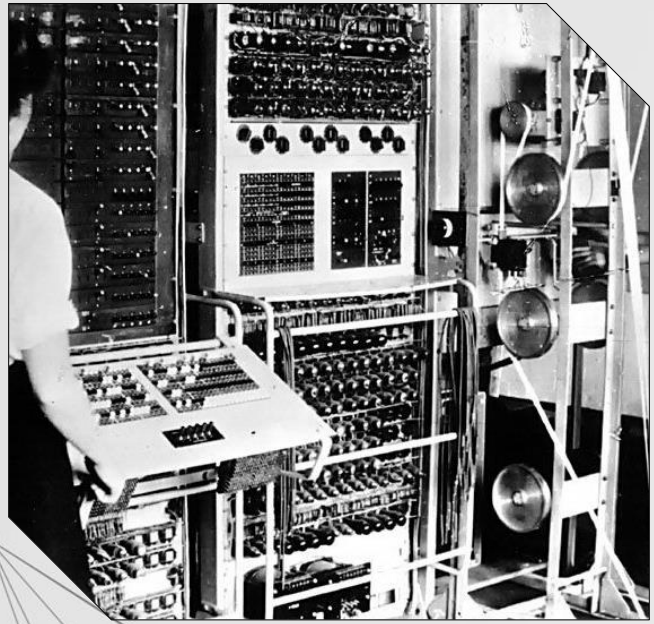
Prvi Colossus operativan u Bletchley Parku.

- dizajn britanskog inženjera Tommyja Flowersa, napravljen da razbije složene Lorenzove šifre koje su koristili nacisti tijekom Drugog svjetskog rata
- sveukupno je isporučeno deset Colossusa, od kojih je svaki koristio do 2.500 elektronskih cijevi
- niz remenica prenosio je kontinuirane role probušenog papira s mogućim rješenjima za određeni kod
- smanjio vrijeme potrebno za razbijanje Lorenzovih šifri s tjedana na sate
- većina povjesničara vjeruje da je upotreba Colossusovih strojeva znatno skratila rat pružajući dokaze o namjerama i uvjerenjima neprijatelja
- postojanje stroja nije objavljeno do sedamdesetih godina

Colossus computer

1944



https://images.computerhistory.org/timeline/timeline_computers_1944.colossus.jpg

First Colossus operational at Bletchley Park.

- design of British engineer Tommy Flowers, designed to break the complex Lorenz ciphers used by the Nazis during World War II
- a grand total of ten Colossi were delivered, each using as many as 2,500 vacuum tubes
- a series of pulleys transported continuous rolls of punched paper tape containing possible solutions to a particular code
- reduced the time to break Lorenz messages from weeks to hours
- most historians believe that the use of Colossus machines significantly shortened the war by providing evidence of enemy intentions and beliefs
- the machine's existence was not made public until the 1970s

1944.

Harvard Mark 1 računalo

Howard Aiken

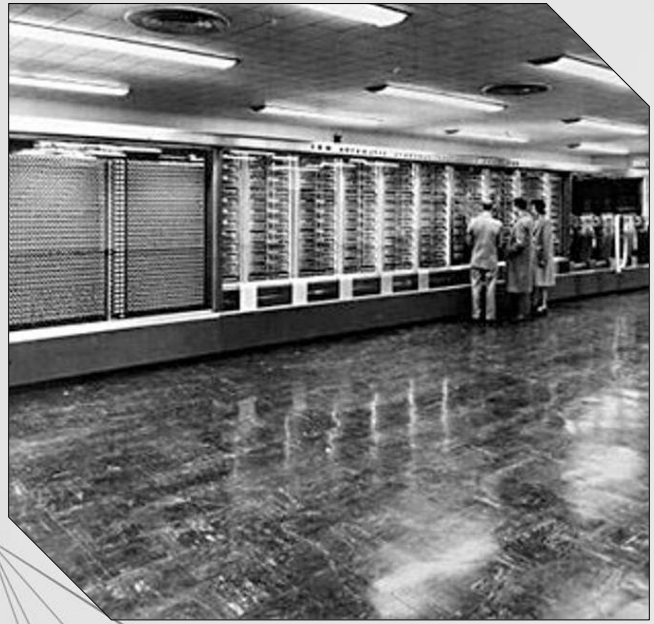
1944

Harvard Mark 1 computer

Howard Aiken

Harvard Mark 1 računalo

1944.



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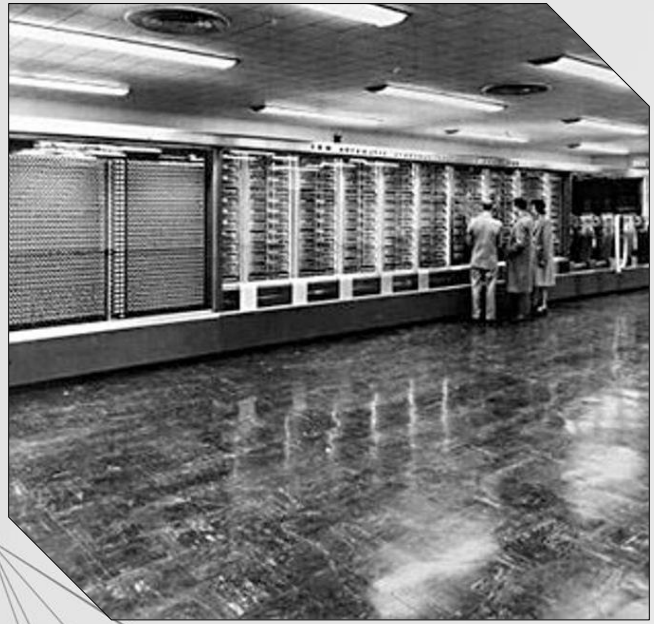
Dovršen je Harvard Mark 1.

- ideja profesora fizike na Harvardu, Howarda Aikena
- dizajnirao ga je i izgradio IBM
- Harvard Mark 1 je kalkulator veličine sobe temeljen na relejima
- stroj je imao pedeset metara dugačku bregastu osovinu koja se protezala duž stroja i sinkronizirala tisuće dijelova i koristila 3.500 releja
- Mark 1 je proizvodio matematičke tablice, ali je ubrzo nadmašen elektroničkim računalima s pohranjenim programom

Harvard Mark 1 computer

1944



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Harvard Mark 1 is completed.

- conceived by Harvard physics professor Howard Aiken
- designed and built by IBM
- Harvard Mark 1 is a room-sized, relay-based calculator
- the machine had a fifty-foot long camshaft running the length of machine synchronizing thousands of component parts and used 3,500 relays
- Mark 1 produced mathematical tables, but was soon superseded by electronic stored-program computers

1946.

ENIAC računalo

John Mauchly i J. Presper Eckert

1946

ENIAC computer

John Mauchly and J. Presper Eckert

ENIAC računalo

1946.

https://images.computerhistory.org/timeline/timeline_computers_1946.eniac.jpg

Javno predstavljanje ENIAC-a.

- pokrenut 1943. godine, računalni sustav ENIAC izgradili su John Mauchly i J. Presper Eckert na Moore School of Electrical Engineering Sveučilišta u Pennsylvaniji
- zbog svoje elektroničke, a ne elektromehaničke tehnologije, bio je više od 1.000 puta brži od bilo kojeg prethodnog računala
- ENIAC je koristio žičano povezivanje i prekidače za programiranje, zauzimao je više od 1.000 kvadratnih metara, koristio je oko 18.000 elektronskih cijevi i težio 30 tona
- vjerovalo se da je ENIAC u deset godina rada obavio više izračuna nego što je to učinilo čovječanstvo do tada

ENIAC computer

1946

https://images.computerhistory.org/timeline/timeline_computers_1946.eniac.jpg

Public unveiling of ENIAC.

- started in 1943, the ENIAC computing system was built by John Mauchly and J. Presper Eckert at the Moore School of Electrical Engineering of the University of Pennsylvania
- because of its electronic, as opposed to electromechanical, technology, it is over 1,000 times faster than any previous computer
- ENIAC used panel-to-panel wiring and switches for programming, occupied more than 1,000 square feet, used about 18,000 vacuum tubes and weighed 30 tons
- it was believed that ENIAC had done more calculation over the ten years it was in operation than all of humanity had until that time

1951.

Univac računalo

John Mauchly i J. Presper Eckert

1951

Univac computer

John Mauchly and J. Presper Eckert

UNIVAC računalo

1951.

https://images.computerhistory.org/timeline/timeline_computers_1951.univacl.jpg

Prvi Univac 1 isporučen Uredu za popis stanovništva.

- Univac 1 je prvo komercijalno računalo koje je privuklo pažnju široke javnosti
- iako ga je proizveo Remington Rand, stroj se često pogrešno nazivao „IBM Univac”
- Univac računala su korištena u mnogim različitim primjenama, ali javna poduzeća, osiguravajuća društva i američka vojska su bili glavni kupci
- jedan biblijski učenjak je čak koristio Univac 1 za sastavljanje konkordancije Kraljevske verzije Biblije
- stvoren od strane dizajnera ranijeg računala ENIAC, Univac 1 je koristio 5.200 elektronskih cijevi i težio 29 tona
- na kraju je prodano 46 Univaca 1 za više od milijun dolara svaki

UNIVAC computer

1951

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First Univac 1 delivered to US Census Bureau.

- the Univac 1 is the first commercial computer to attract widespread public attention
- although manufactured by Remington Rand, the machine was often mistakenly referred to as the „IBM Univac"
- Univac computers were used in many different applications, but utilities, insurance companies and the US military were major customers
- one biblical scholar even used a Univac 1 to compile a concordance to the King James version of the Bible
- created by designers of the earlier ENIAC computer the Univac 1 used 5,200 vacuum tubes and weighed 29,000 pounds
- eventually 46 Univac 1s were sold at more than $1 million each

> od 10.420.000.000

ukupan broj računala, tableta i pametnih telefona na svijetu

> than 10.420.000.000

total number of computers, tablets and smartphones in the world

> od 2,3 milijarde

računala

> od 6,84 milijarde

pametnih telefona

> od 1,28 milijarde

tableta

> than 2,3 billion

computers

> than 6,84 billion

smartphones

> than 1,28 billion

tablets

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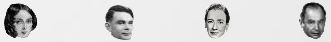
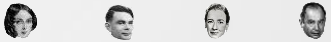


A. L. | A. T. | G. H. | J. V. N.

važne osobe u računalnoj povijesti

4 thoughts



A. L. | A. T. | G. H. | J. V. N.

important people in computer history

Taj moj mozak je nešto više od pukog smrtnika; kako će vrijeme pokazati.

Ada Lovelace

That brain of mine is something more than merely mortal, as time will show.

Možemo vidjeti samo malo unaprijed, ali možemo vidjeti puno toga što treba učiniti.

Alan Turing

We can only see a short distance ahead, but we can see plenty there that needs to be done.

Najštetnija fraza u svakom jeziku je: „To se uvijek tako radilo.”.

Grace Hopper

The most damaging phrase in the language is: „It's always been done that way.”.

U matematici ne razumijete stvari. Samo se naviknete na njih.

John Von Neumann

In mathematics you don't understand things. You just get used to them.

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