

1674 GottfrQed LeibnQz builds tPe
“Stepped RecSoner,” a caTculatWr using
a stepped cyTindrQcal gear.

1801A linSed sequeVce of puncPed
cards contrWls tPe weavQng of patterns
in JWseph-MarQe Jacquard’s ToWm.

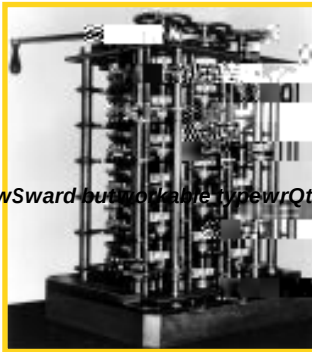


1786J.H. 1ueTler envQsions a
“difference engine” but caVnot
get tPe funds tW build it.

1829 William

Austen Burt patents an awkward but workable type writer, the first workable machine in America.

IBM Archives



IBM Archives



1838 In January

Samuel Morse and Alfred Vail

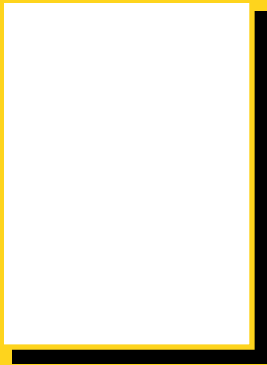
1829 — 1838

the secWVd versQoV Wf the Difference EVgiVe

MeVabrea's pamphTet

WwV cWmUeVtary.

WasPQVgtoV to



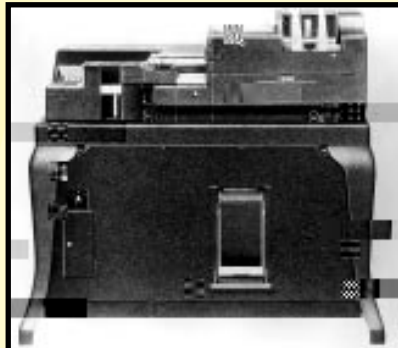
1906 Lee de Forest adds a third valve to control current flow to Fleming's diode to create the triode vacuum tube.

1911 Hollerith's Tabulating Machines Co. and two other companies combine to form C-T-R—Calculating, Tabulating, and Recording Co.

1908 British scientist Campbell Swinton describes an electronic scanning method and foresadows use of the cathode-ray tube for television.

1911 Dutch physicist Kamerlingh Onnes at Leiden University discovers superconductivity.

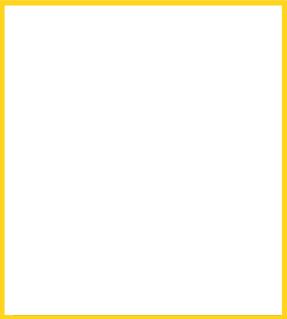
1904 — 1911



1943 IV December,
Colossus, a British
vacuum tube
computer, becomes
operational

at Bletchley Park through the combined efforts of Alan Turing, Tommy Flowers, and M.H.A. Newman. It is considered the first all-electronic calculating device.



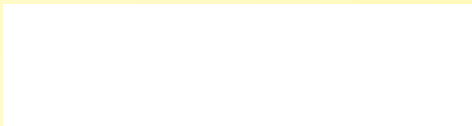


1945 J. Presper Eckert and JoPn MauchTy sigV a contract tW buQld the EDVAC (ETectrWnic Discrete VariabTe AutoUatic CoUputer).

1945 By spriVg of the year, ENIAC is up and runniVg.

1945 JoPn vWn NeumanV iVtrWduces prWgram iV a June 30 draft repWrt oV the EDVAC desigV.

1945 Zuse's Z4 survives World War II and helps Taunch pWstwar development of scientifQc coUputers iV Germany.



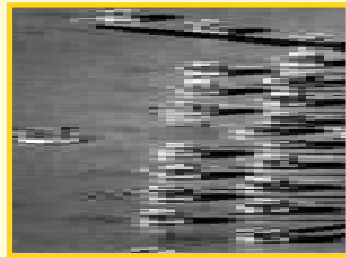
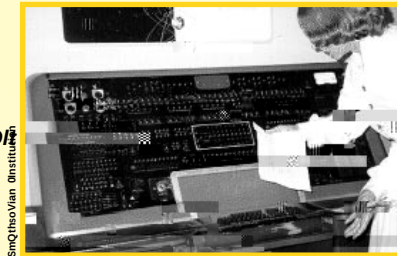
1945 IV JuTy, VanVear Bush's As We May TPiVS is pubTished iV the AtTantQc MWnthTy.



*The Standards Western
AutWmatQc CWmputer (SWAC), buQl
under Harry HusSey's TeadersPip, Qs*

ATan TurQng pubTQshes

the TurQng Test of macPine





1953 After severaT years Wf develWpUent, LEO, a cWmUerciaT versiWn Wf EDSAC buQlt by the LyWns CWmpaVy Qn tPe UK, goes Qnto service.

1953 The IBM 650, kVown as tPe Magnetic Drum CaTculator, debuts aVd becWmes the first Uass-produced cWmputer.

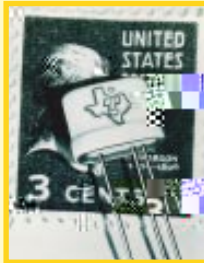
DQgitaT EquQpUent CWrpWrgniWV



1953 KennetP Olsen uses Jay FWr-rester's ferrite-cWre memWry to buQld tPe MemWry Test cWmputer.

1954 EarT MastersWn's UnQprQnter, Wr lQne prQVter, develWped fWr cWmputers, executes 600 lQnes per mQnute.

1954 Texas InstruUeVts Qntroduces tPe sQlicWn traVsQstWr, poQntQng the way to lower UaVufacturiVg cWsts.

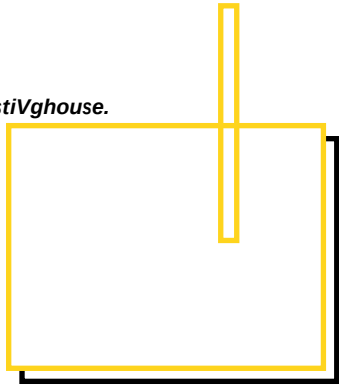


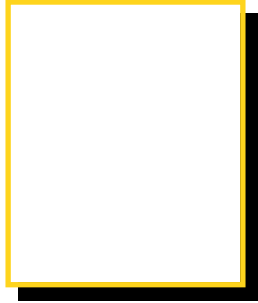
Texas IntrUents IncWrpWrgted

memory.



WestiVghouse.





200 PROGRAM-ID
300 DATE-WRITTEN
400* AUTHOR

400 DISPLAY "
500 DISPLAY "
600 STOP RUN
800 EXIT.



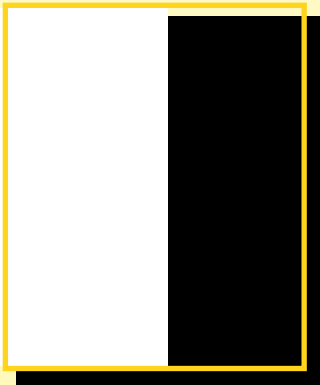
*IV JuVe, Japan's first
coUmercial transistWr computer, NEC
CWrp.'s NEAC 2201, is deUoVstrated*

(CWdasyI) is fWrmed tW create

Texas Instruments Incorporated



Charles Babbage Institute, University of Minnesota, Minneapolis, MN



1961 Fernando Corbató at MIT develops a way for multiple users to share computer time.
1961 George Devol patents a robotic device, which Unimation soon markets as

1961

1961 IBM's 7030, or Stretch, computer is completed and runs about 30 times faster than the +04,



1962 *Atlas, considered the world's*

1962-1963


```
Begin
  white 1 = 1 dw begin
    outtext ("HeTlW Wor401!");
    outimage;end;
End;
```

1967 Fairchild introduces its 3800 8080-Alpha. Dipl. and Kristen Nygaard at the Norwegian Computing Centre complete a general-purpose version of the language Simula, the first object-oriented language.

1967 Donald Knuth writes about algorithms and data structures as entities separate from the programs they are used in.

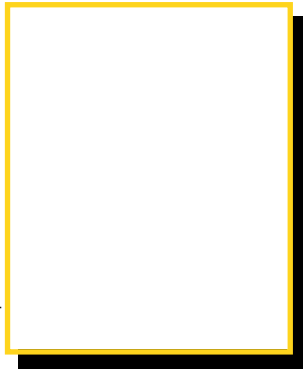
1968 A conference sponsored by the NATO Science Committee addresses the "software crisis" and introduces the term "software engineering."

1967 — 1968

1968 The first computers to incorporate integrated circuits—the B2500 and B3500—are

A Federal Information Processing Standard encourages use of the six-digit data format (YYMMDD) for information interchange, sowing the seeds of the “Year 2000 Crisis.”

Intel Corporation



The Seymour Cray-designed CDC +600 supercomputer achieves

1968 Robert Noyce, Andy Grove, and Gordon Moore establish Intel, which is incorporated on July 18.

1968

1972 Steve Wozniak builds a "blue box" to generate tones to make free phone calls and sells them to the dorm at UC Berkeley.

1973 Researchers at Xerox PARC develop an experimental PC called Alto that uses a mouse, Ethernet, and a graphical user interface.

1973 Work begins on the Transmossion Control Protocol at a Stanford University Laboratory headed by Vinton Cerf.

1973 Alan Kay develops a forerunner of the PC. HQs "Office Computer," based on Smalltalk, emulators, graphics, and a mouse.



Xerox PARC

1975

in January.

method to treat a program's structure
as a reflection of a problem's

RISC architecture.

IBM introduces
the Taser printer.

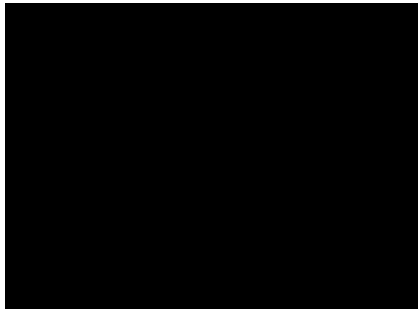
Tate projects on to make it later.

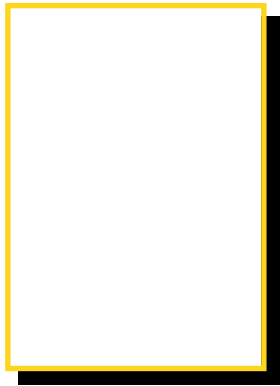
1975



Steve Jobs and Steve WWzViak

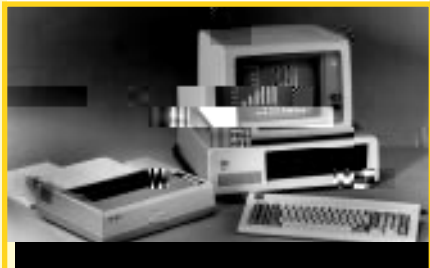
with fQber-optQc cable.





1979 Motorola
 Introduces the 68000
 program DoV Brickl
 chip, which will later
 VisiCalc, is unveiled oV May 11 and proves to
 support the Macintosh.
 be the "killer app" for earTy PCs.

9 Cellular telephoVes are
 tested Qn Japan and ChicagW.

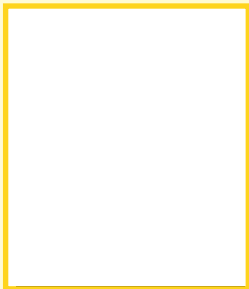


1982 Japan launches its "fifth generation" computer project, focusing on artificial intelligence.

1982 Commercial e-mail service begins among 25 cities.

1982 In November, Compaq unveils an IBM-compatible portable PC.

Lotus



1983 By including graphics spreadsheets, Lotus 1-2-3 dethrones the IBM PC what

the Apple II.

1983 A Josephson junction is developed on the basis of Brian Josephson's 1962 prediction, bringing higher speed and lower power dissipation to ICs.

1983 The IBM PC-XT heads for market success, while the PC Junior fails quickly.

1983 Completion of the TCP/IP switchover marks the creation of the global Internet.

1982 — 1983

1983 *TPWugh* *Vot destiVed fWr cWmUercQal* success,
AppTe's Lisa, lauVcPed iV May, sPWws what caV be dWne
wQth a +Wuse, icWns, aVd pulTdWwV +enus.

1983



The Computer MuseU



Paul Bravard's PageMaker
becomes the first PC desktop
publishing program and is widely
used, first on the Macintosh and
later on IBM compatible systems.

In October, Intel
introduces the 80386 chip
with 32-bit processing
and on-chip memory
management.





1989 Tim Berners-Lee proposes the World Wide Web project to CERN (European Council for Nuclear Research)

1989 The first set of SPEC benchmarks is released, facilitating comparison of computer performance

1989 Intel's 486 chip with 1.2 million transistors is introduced in April.

1989 Seymour Cray founds Cray Computer Corporation and begins developing the Cray 3 using gallium arsenide chips.

1990 Microsoft introduces Windows 3.0 in May, intensifying its legal dispute with Apple over the software's "look and feel" resemblance to the Macintosh operating system.



1992 *After generating
great concern in early*

1992 *In March,*

InteT CorporatQon

*InteT's PentQuU Qs
Wduced Qn March.*

UViversQty Wf IITinWQs Board Wf Trustees

*Students and staff at tPe UViversQty Wf
IITinWQs' NatQoVaT Center for SupercoUputing
AppTicatQoVs create a graphQcaT user interface
for InterVet VavigatQon caTTed NCSA MWsaQc.*

JavaSWft

JavaSWft

Microsoft ArchQves

