

# Basic of Computer

# What is a Computer ?

- A **computer** is a general-purpose device that can be programmed to carry out a set of arithmetic or logical operations automatically. Since a sequence of operations can be readily changed, the computer can solve more than one kind of problem.

# Use of Computers

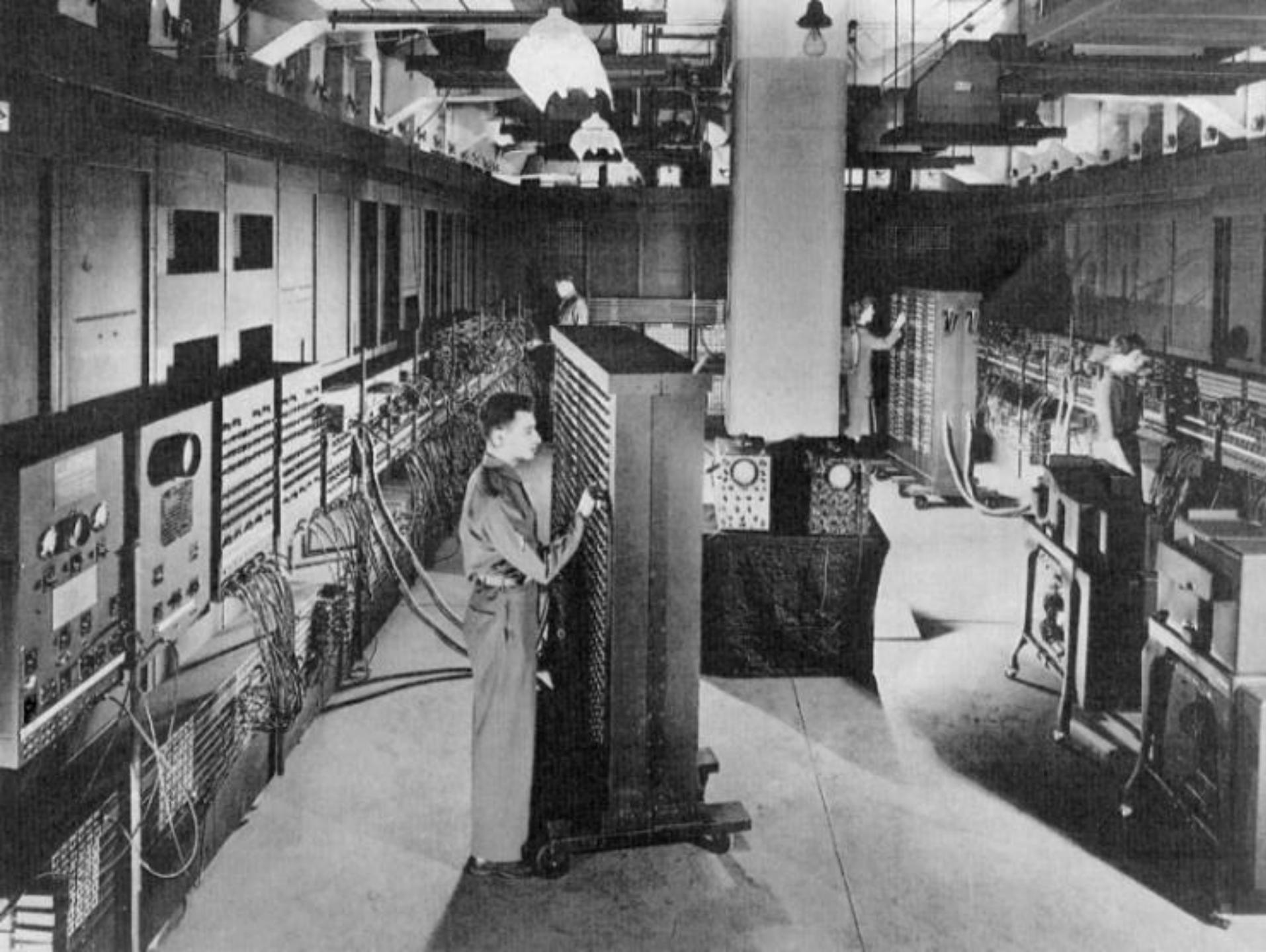
- In Schools / Colleges
- In Banking Sector
- In Corporate Sector
- In Defense
- In Hospitals
- In Transportation
- In Government Offices and etc...

# Generations of Computer

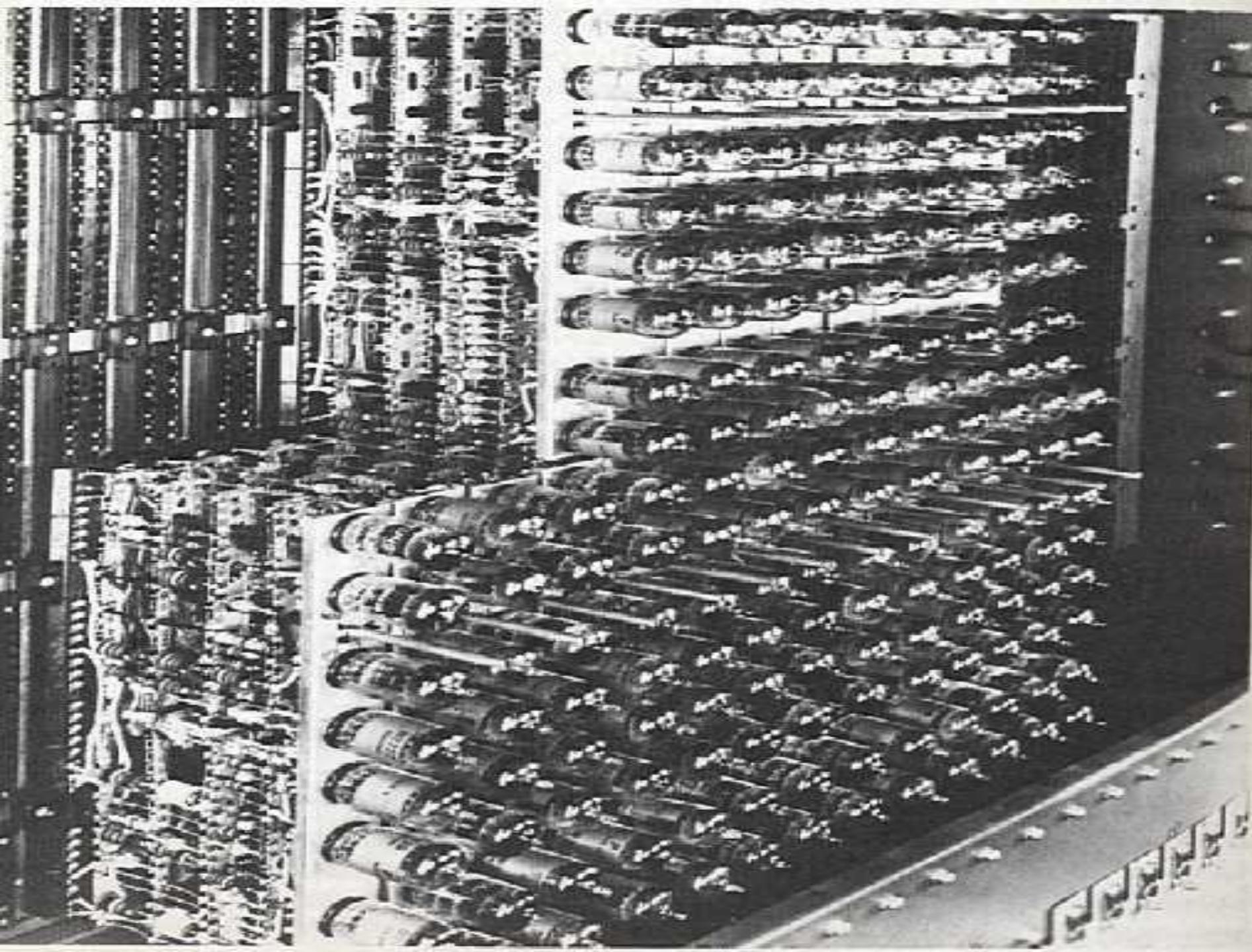
# 1<sup>st</sup> generation (1940-1956)

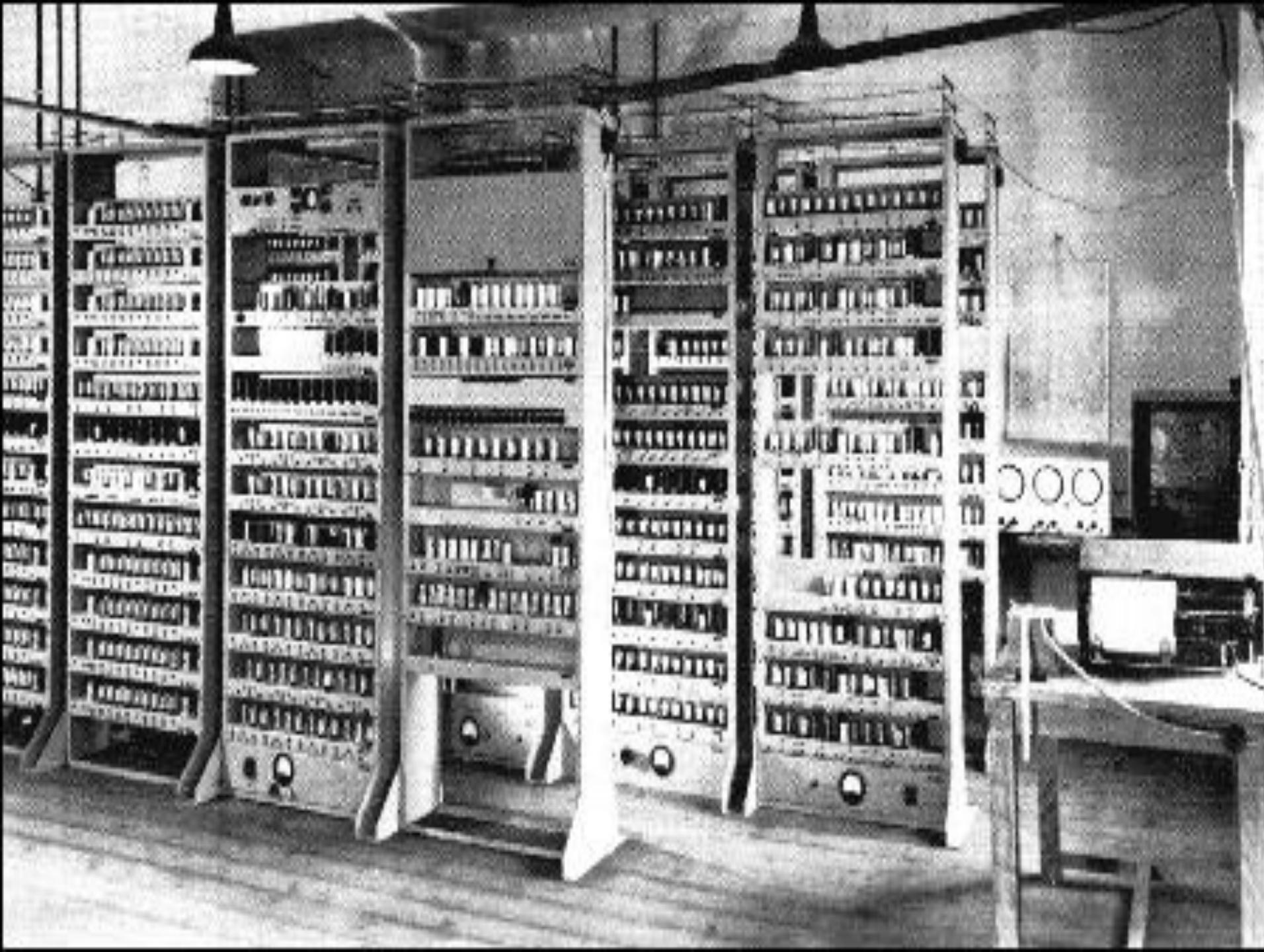
- The first computers used **vacuum tubes** for circuitry and magnetic drums for memory, and were often enormous, taking up entire rooms. They were very expensive to operate and in addition to using a great deal of electricity, generated a lot of heat, which was often the cause of malfunctions.

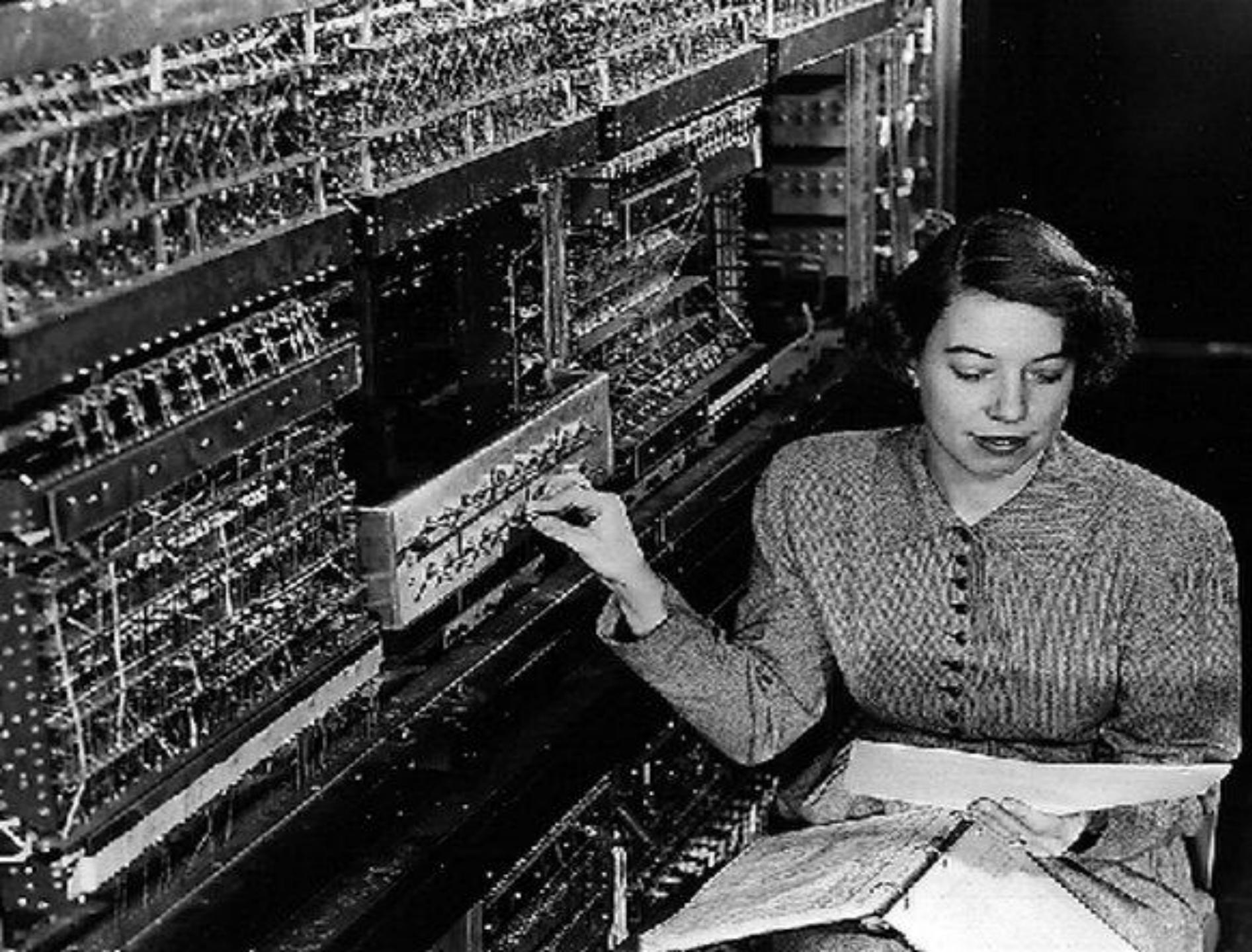
- First generation computers relied on machine language, the lowest-level programming language understood by computers, to perform operations, and they could only solve one problem at a time.
- The UNIVAC and ENIAC computers are examples of first-generation computing devices.

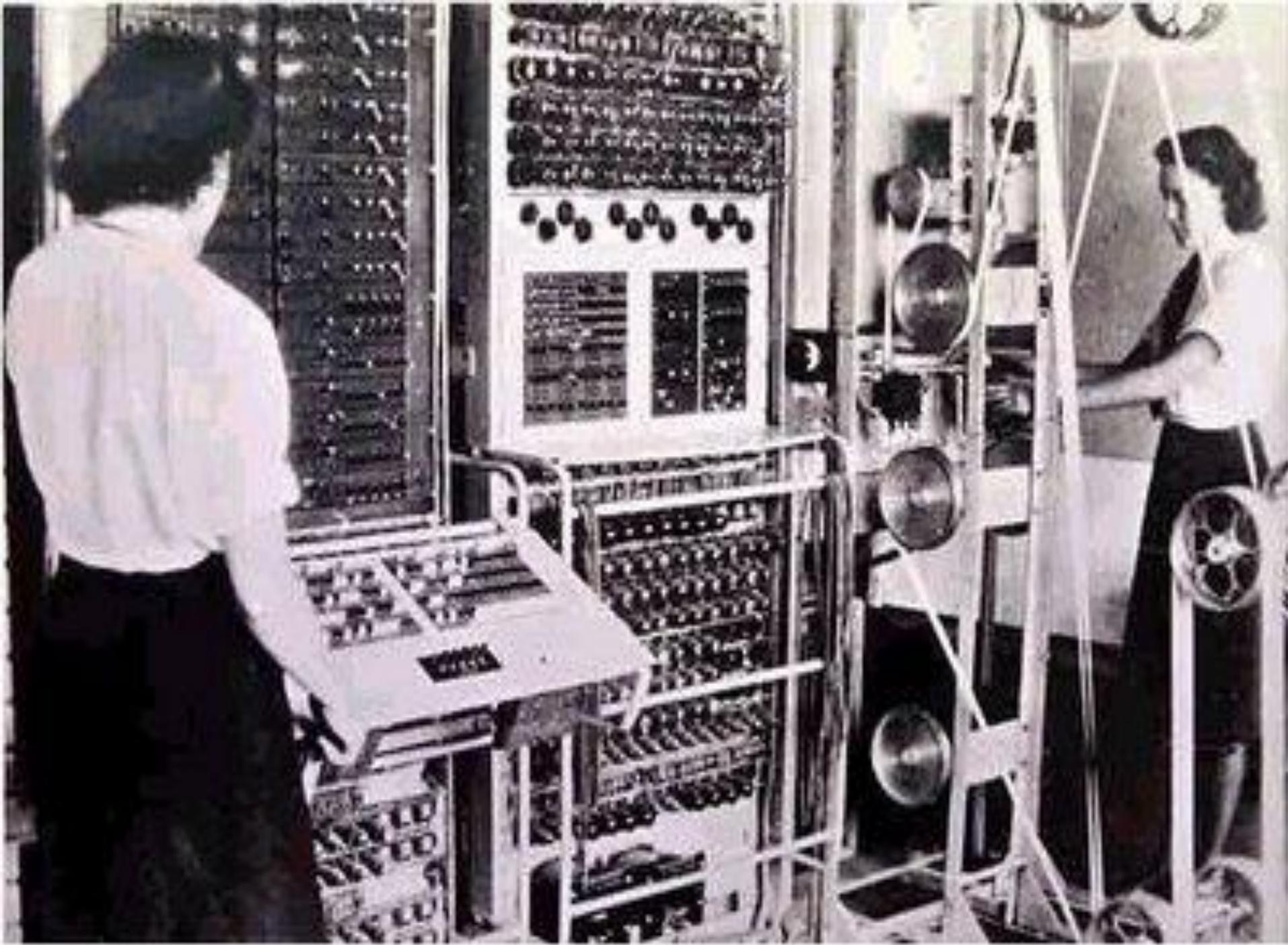


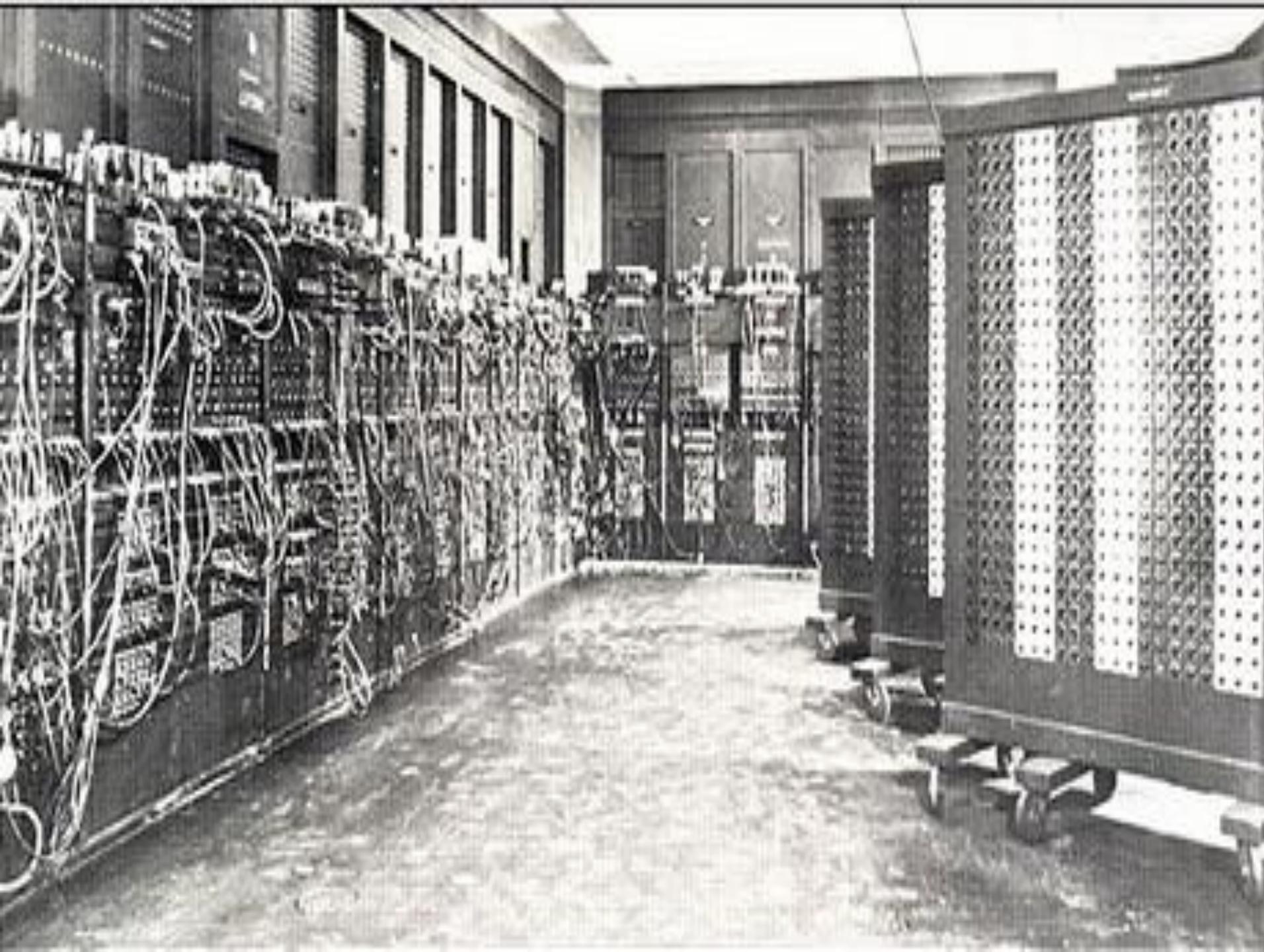


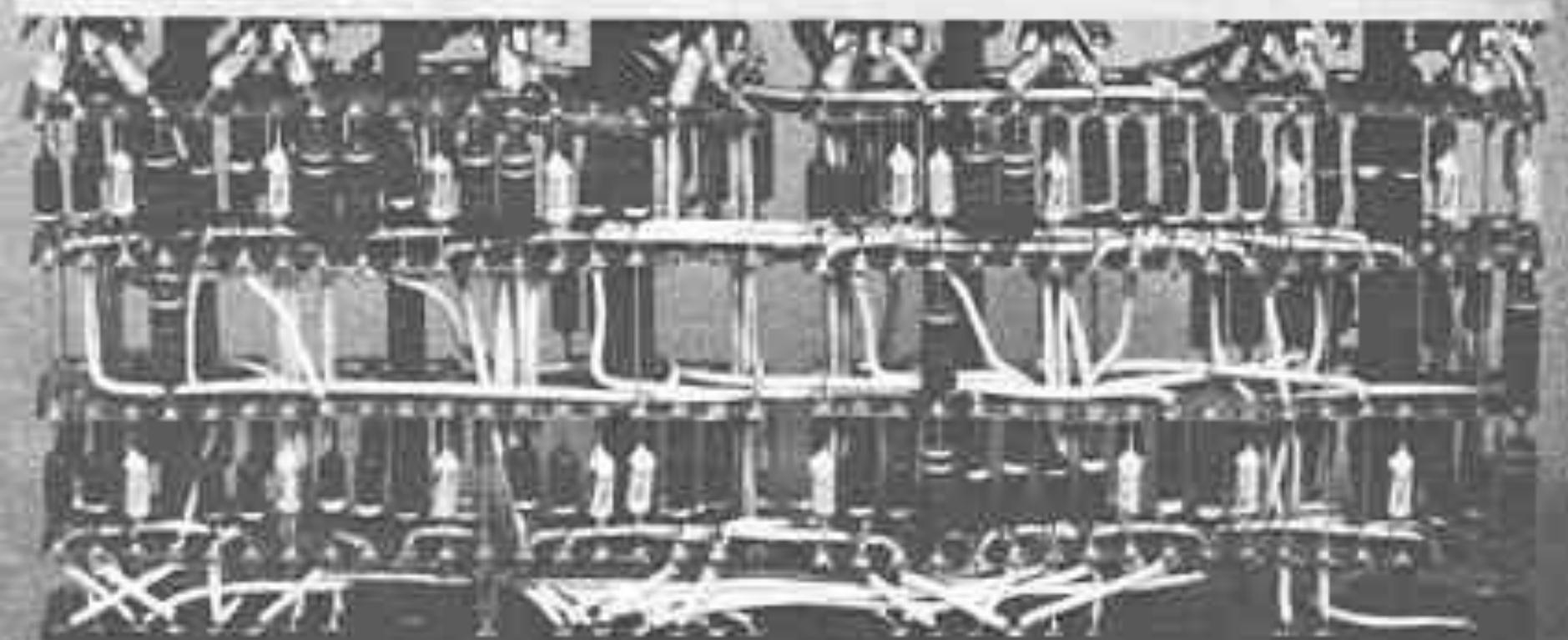


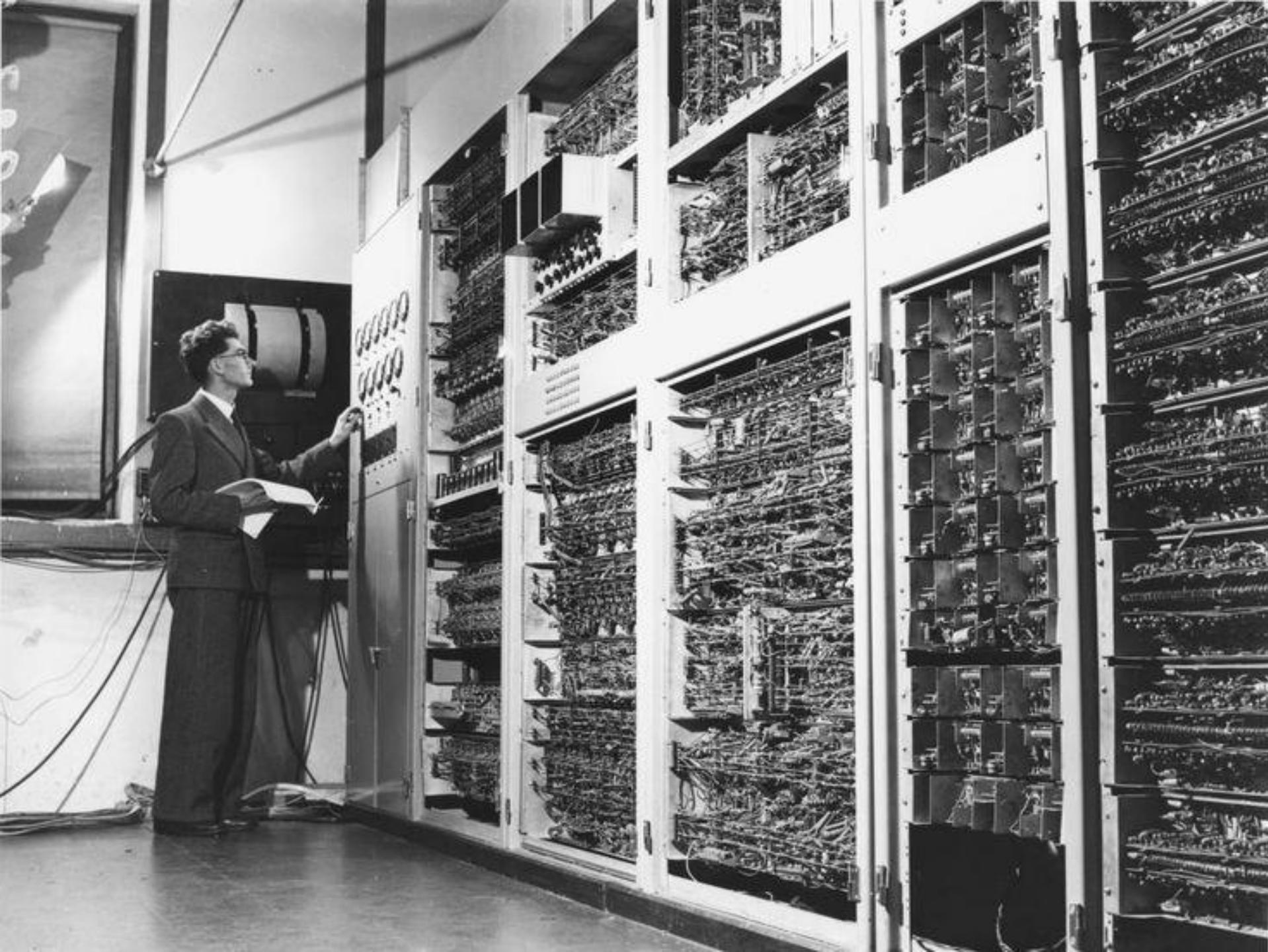














**Vacuum tube**

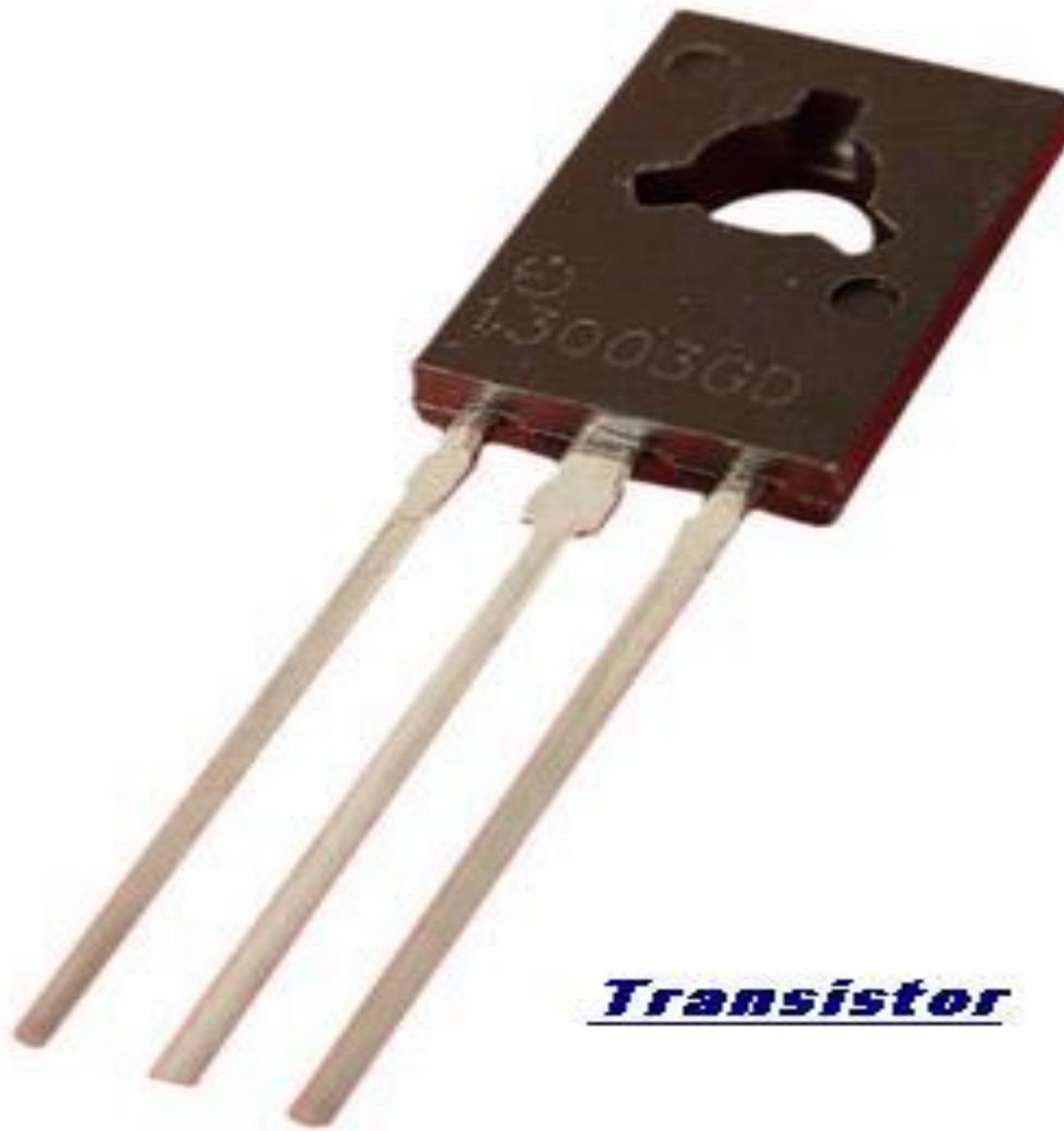


# 2<sup>nd</sup> generation (1956 - 1963)

- Transistors replaced vacuum tubes and ushered in the second generation of computers.
- The transistor was far superior to the vacuum tube, allowing computers to become smaller, faster, cheaper, more energy-efficient and more reliable than their first-generation predecessors.

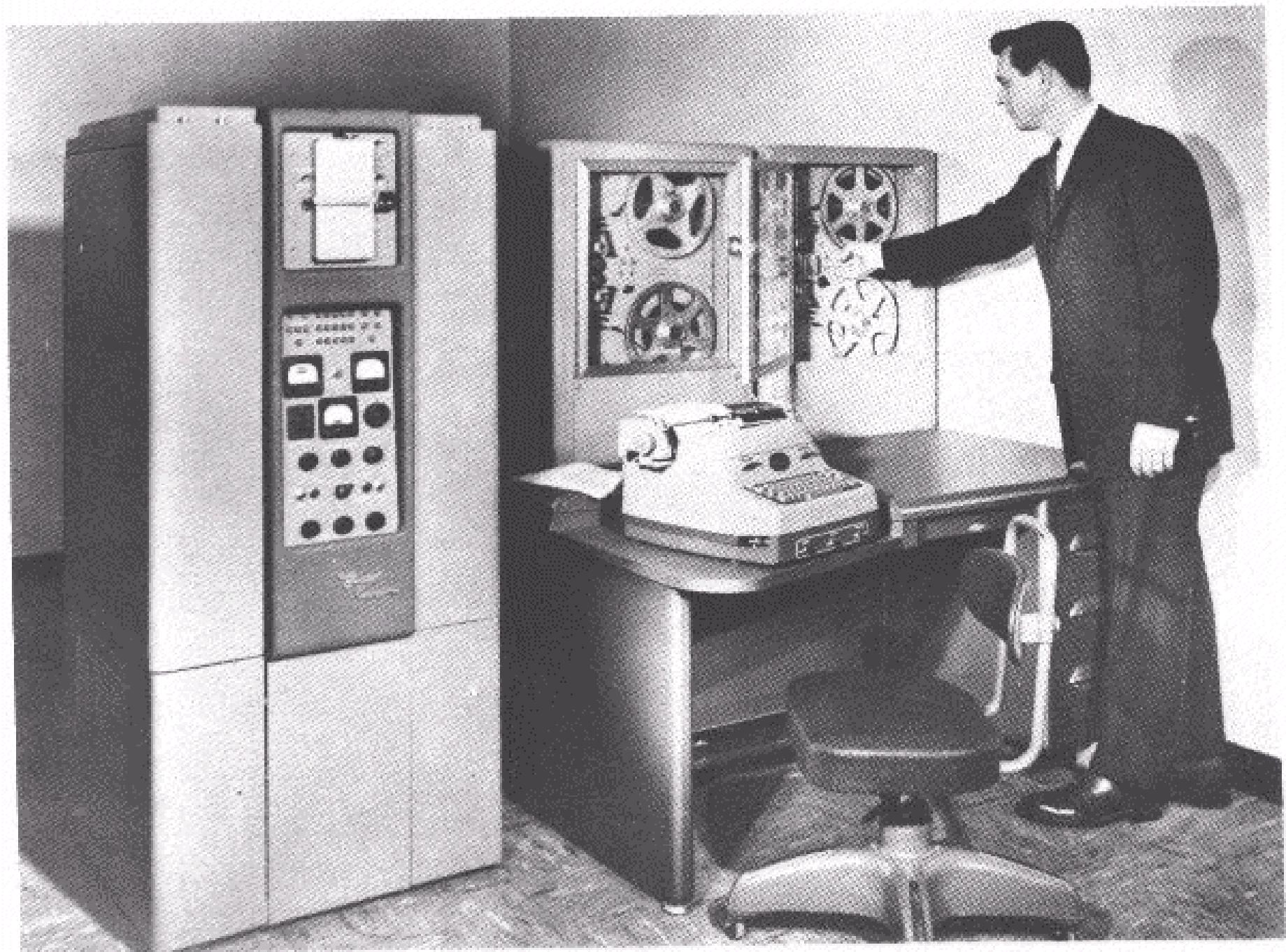




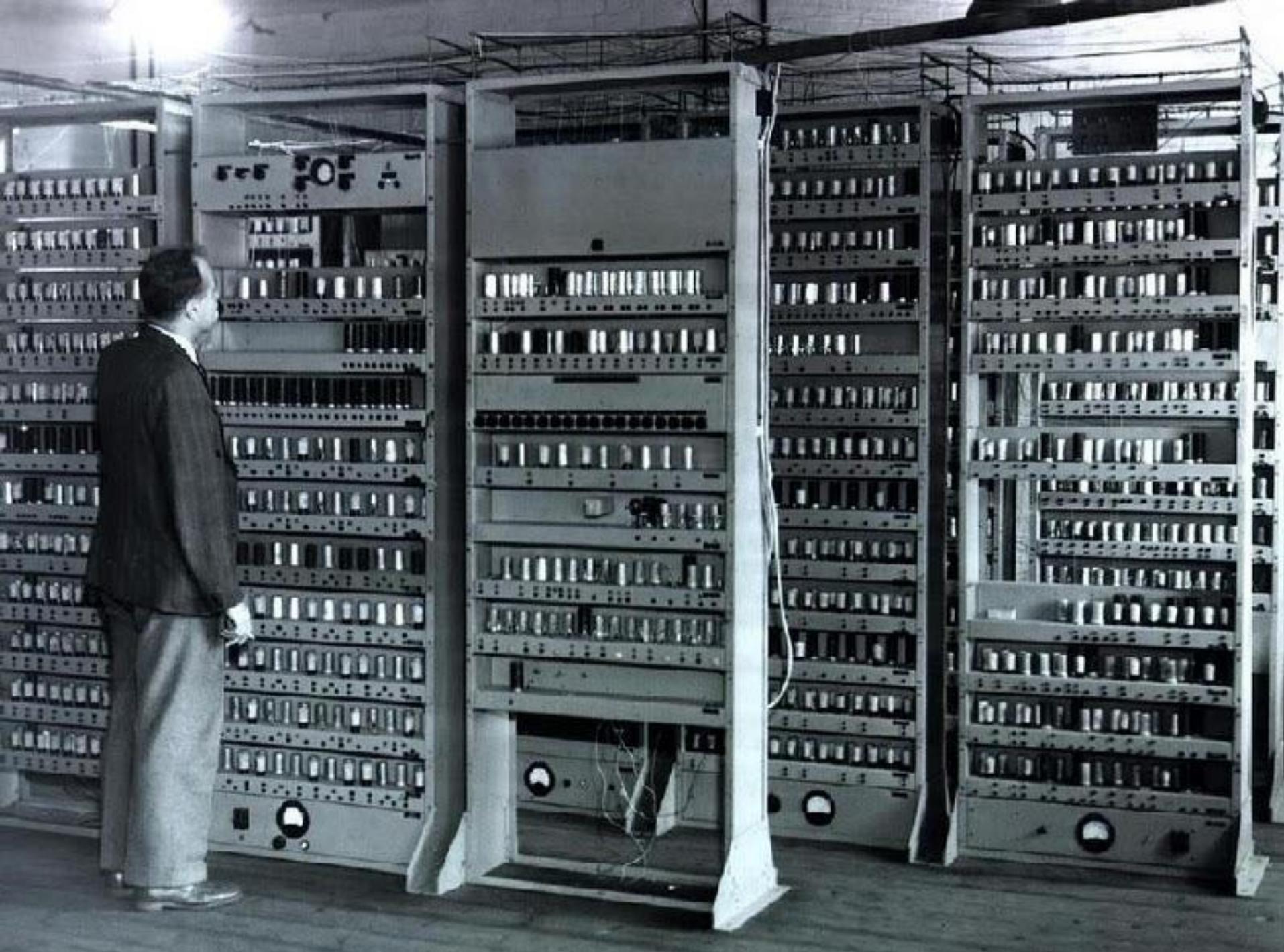


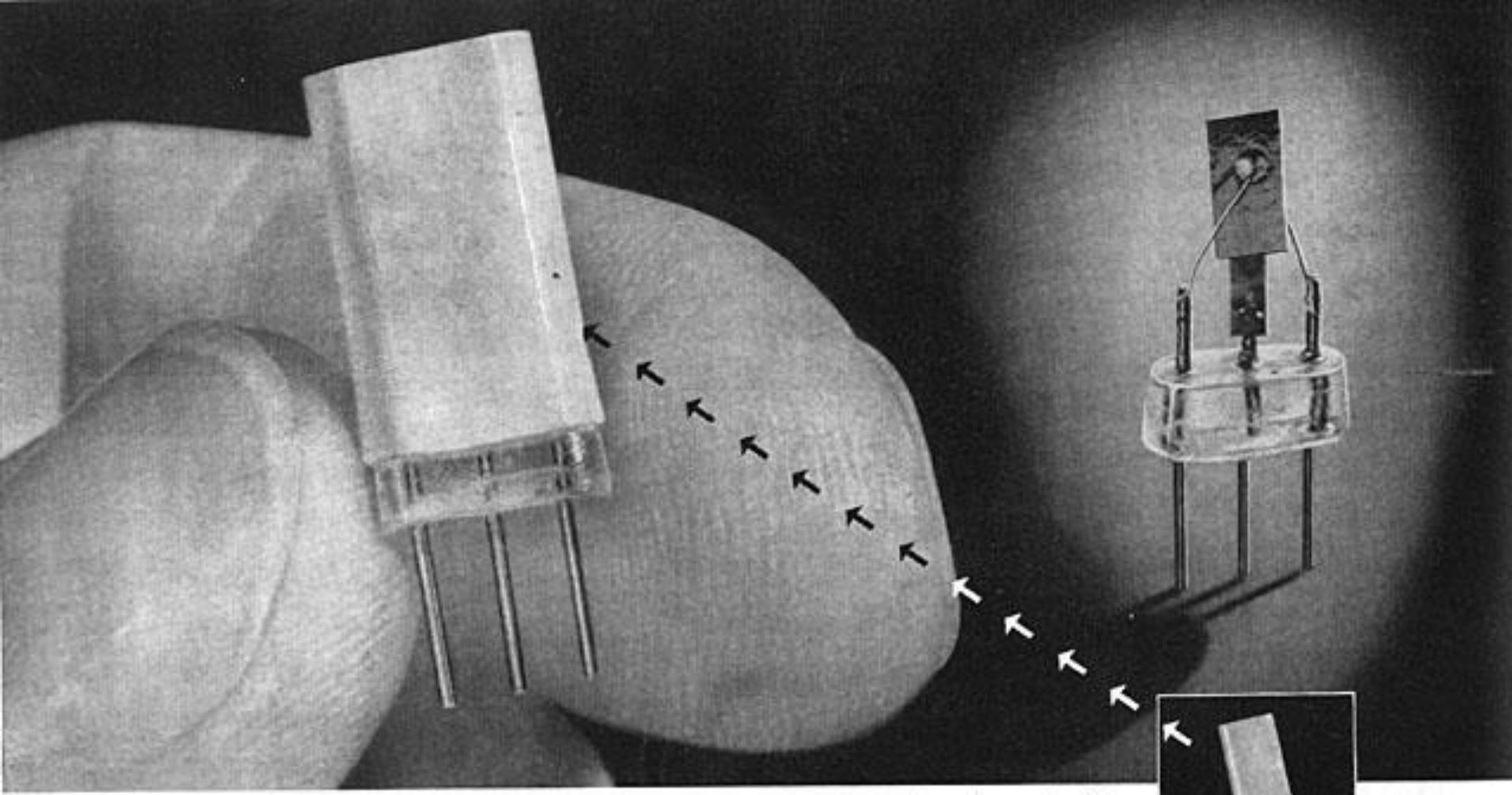
Transistor





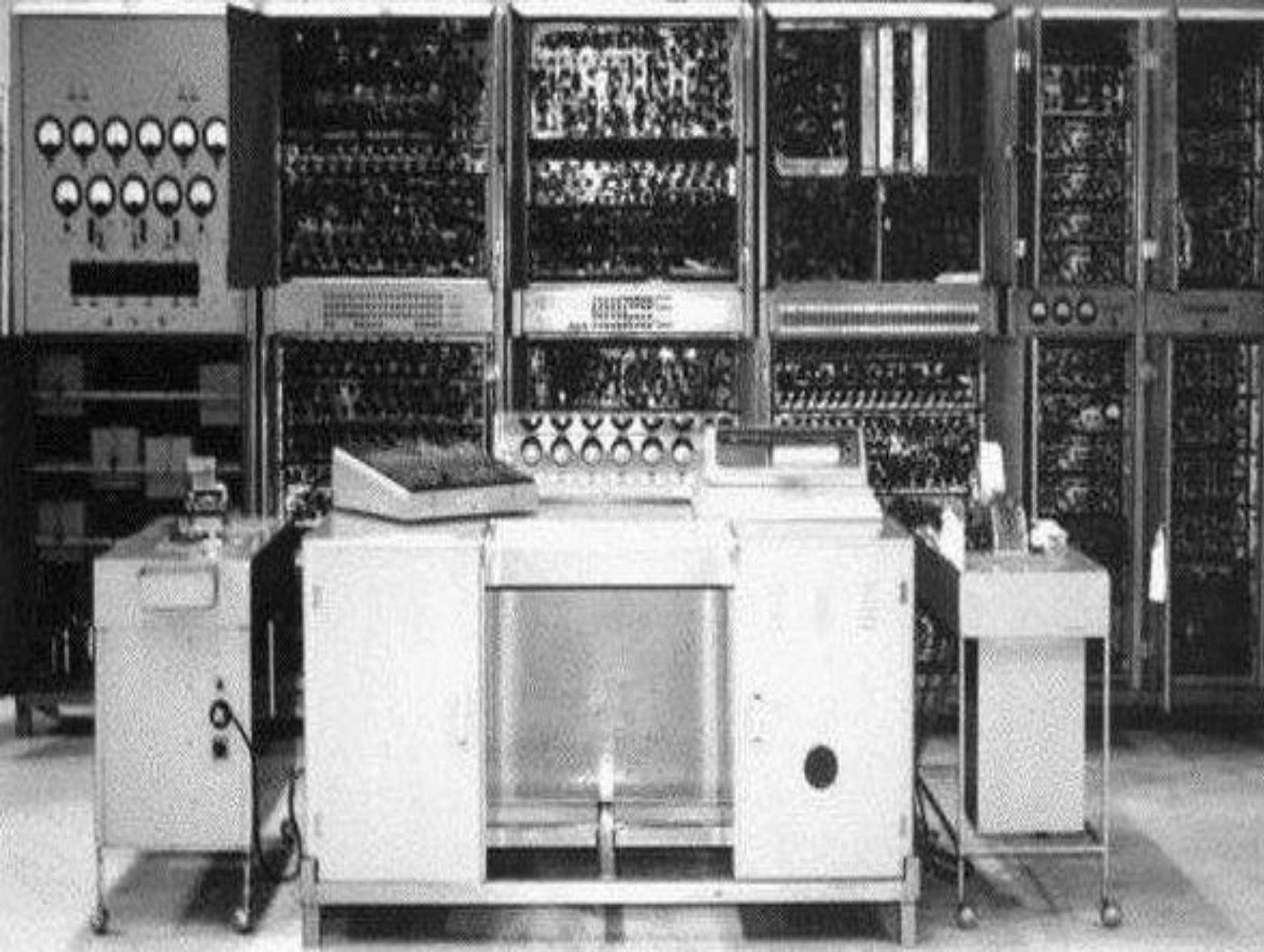




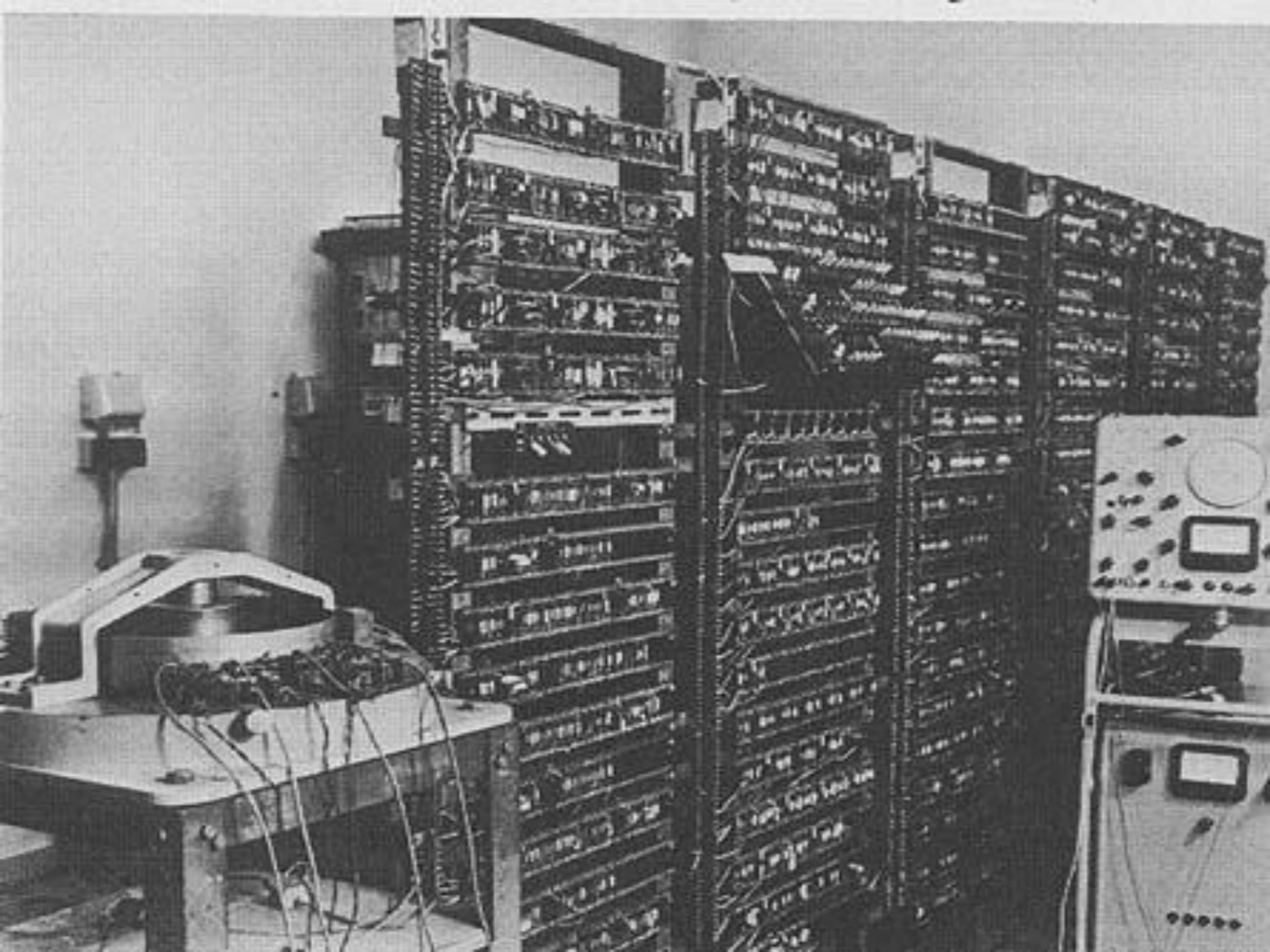


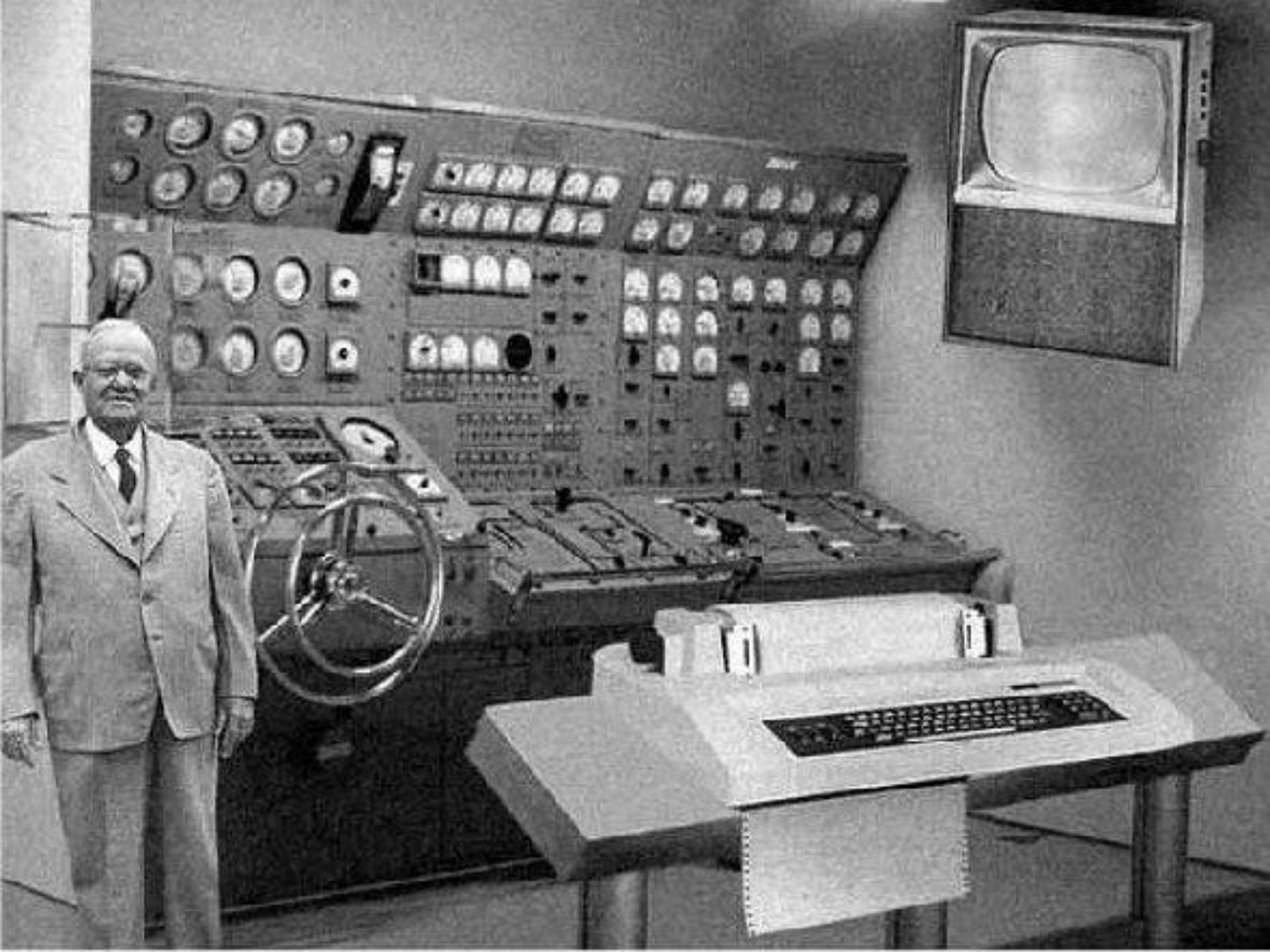
Enlarged photo shows the transistor before  
and after being encased in its plastic  
shell. Inset, Transistor actual size.

# Transistor— mighty mite of electronics



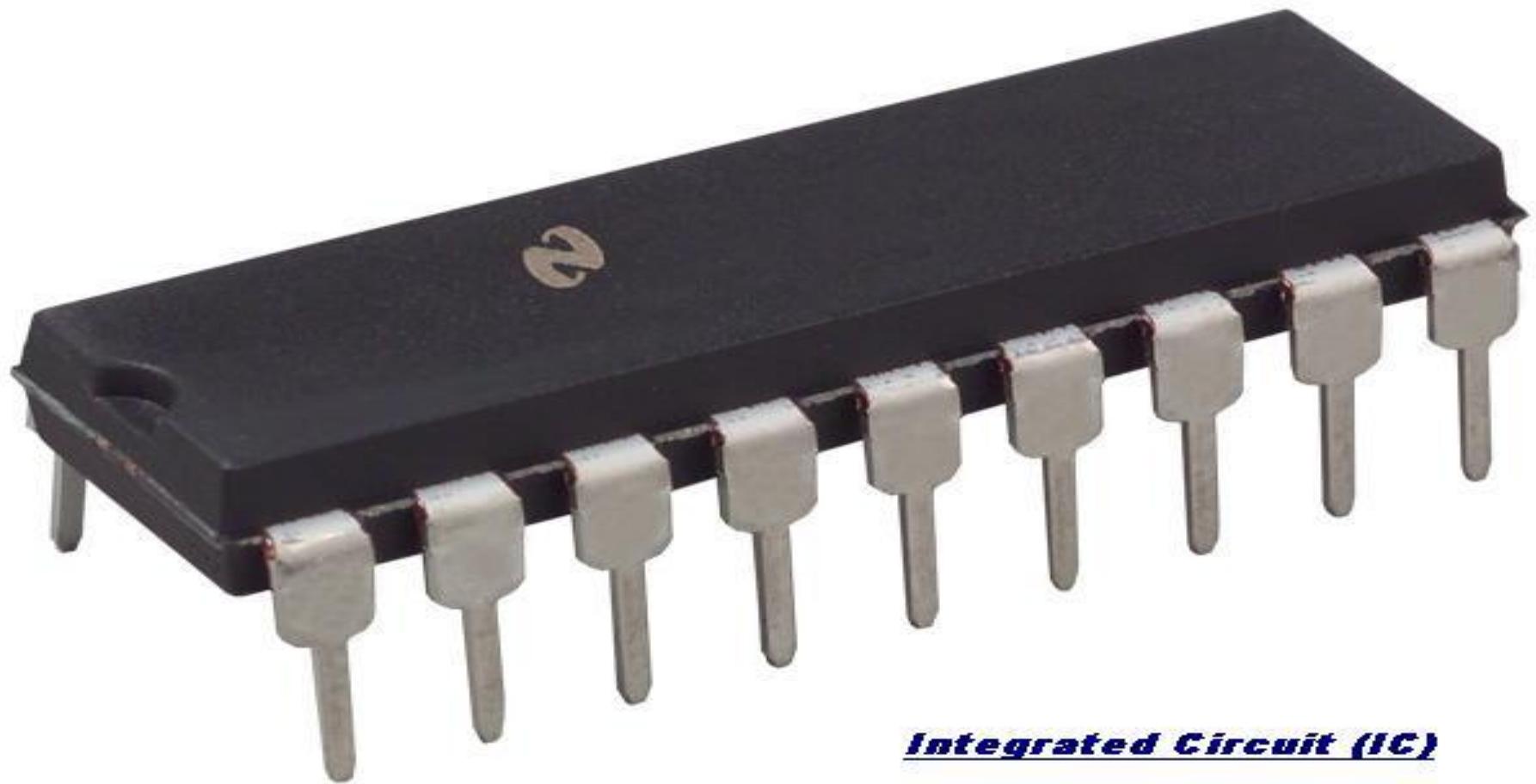






# 3<sup>rd</sup> generation ( 1964 - 1971)

- The development of the integrated circuit was the hallmark of the third generation of computers. Transistors were miniaturized and placed on silicon chips, called semiconductors, which drastically increased the speed and efficiency of computers.

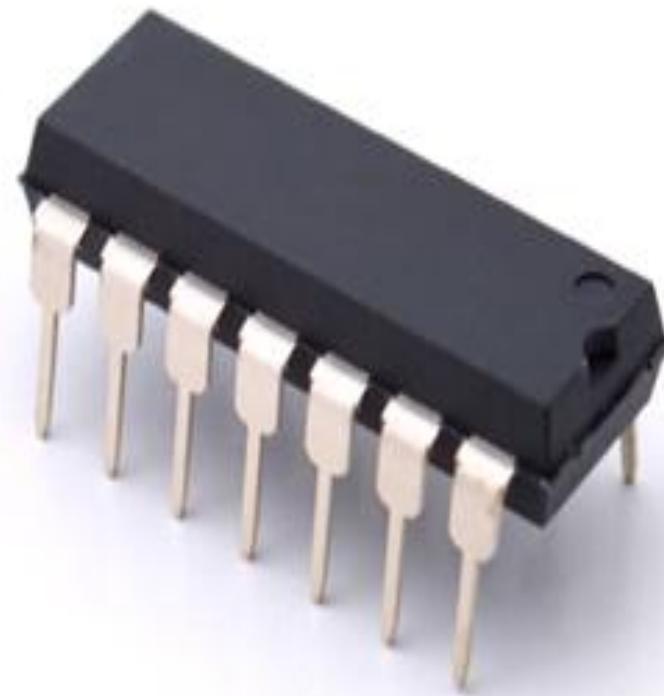


***Integrated Circuit (IC)***

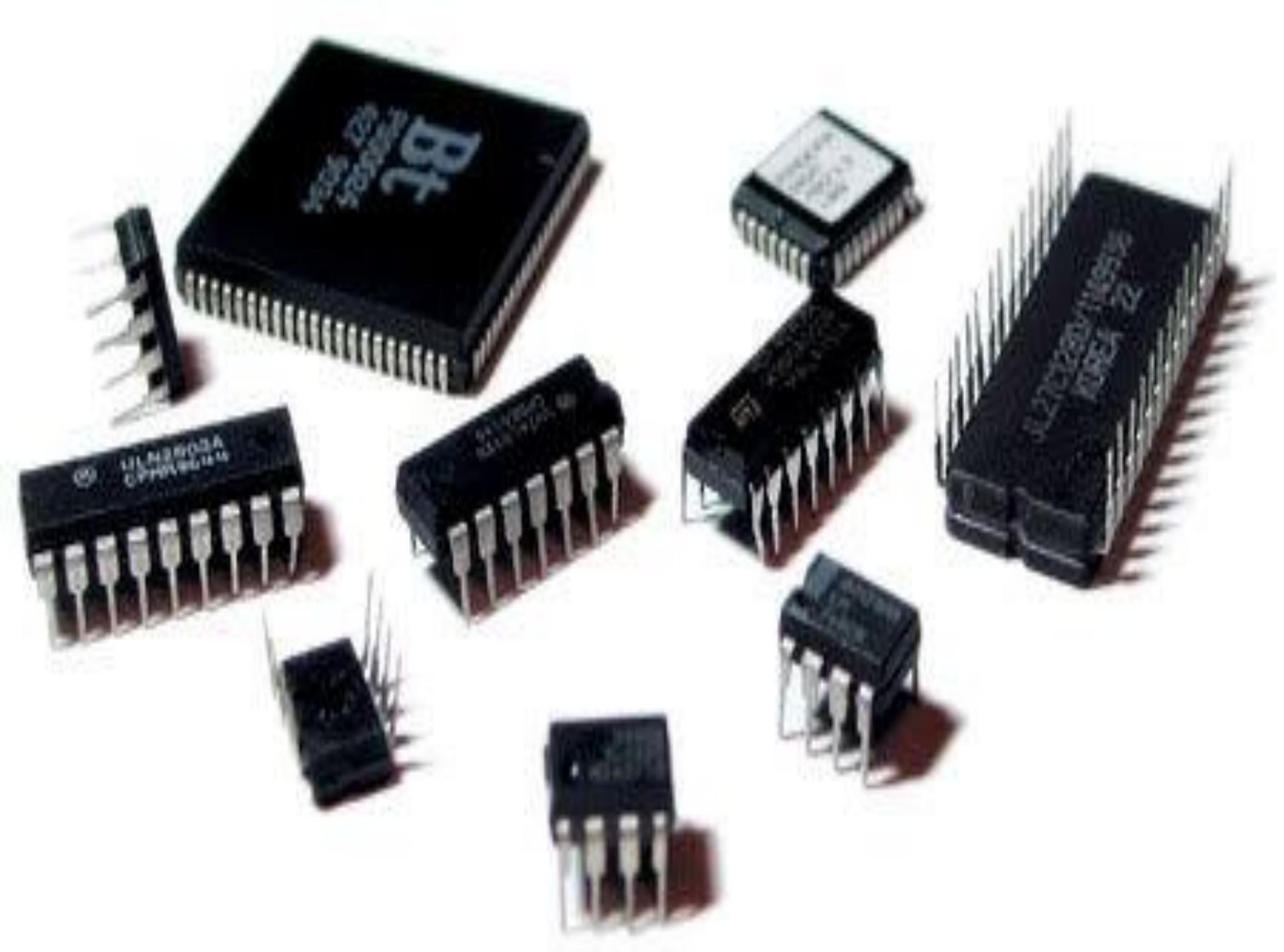


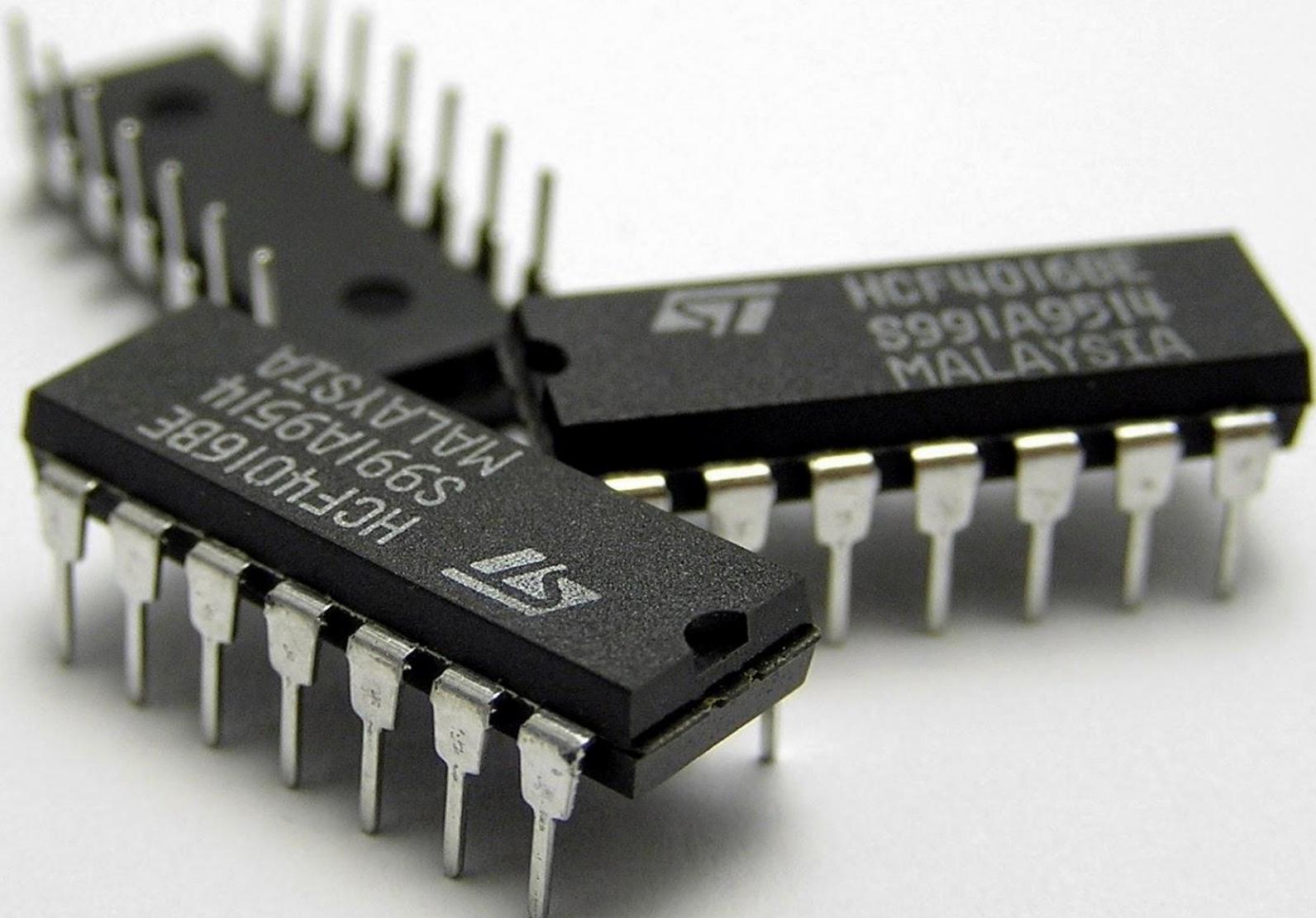
Vacuum tubes: slow,  
expensive, fragile

Transistors: much simpler, much smaller, much  
cheaper, more reliable, no warm up, much  
faster.



Integrated circuits: miniaturization added to all  
the existing benefits, enabled unthought-of  
possibilities







PROTECT INT

HEAD OFF IN OUT HLV STACK NO. INT CNTL

WRT HEAD

FILE  
34-1  
TITLE

MONITOR S/T 114 2 43 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 500

DATA 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 2000

DD DRAFTS

TOP  
DRAFT  
DRAFT  
DRAFT  
DRAFT  
DRAFT

DD DRAFTS

389'85



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Processor

DIL RAM chip area  
takes several type of RAM

BIOS ROM

SIP RAM modules

SIP RAM modules

# 4<sup>th</sup> generation (1971 - Present)

- The microprocessor brought the fourth generation of computers, as thousands of integrated circuits were built onto a single silicon chip. What in the first generation filled an entire room could now fit in the palm of the hand











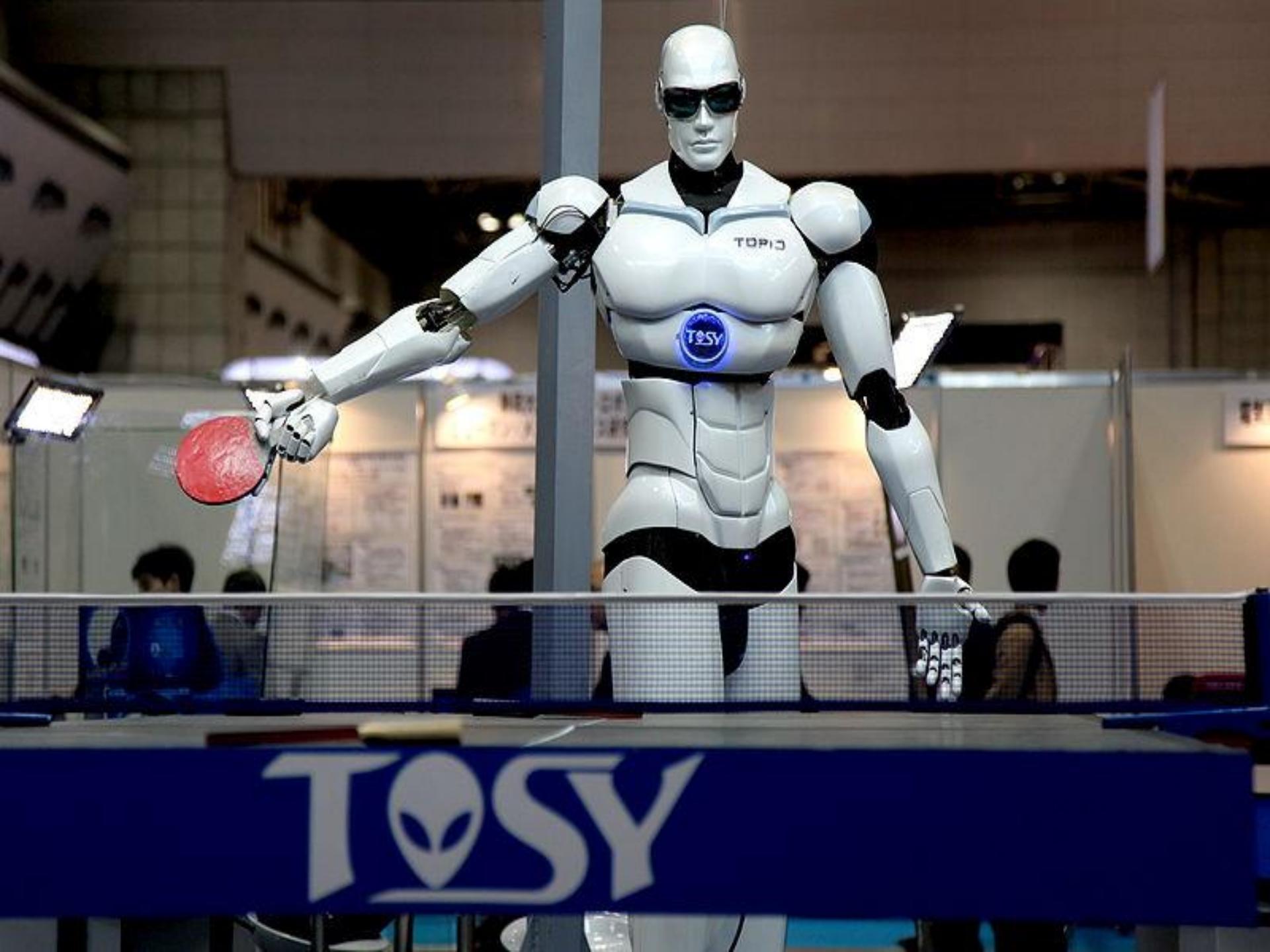
Windows® 7  
Professional



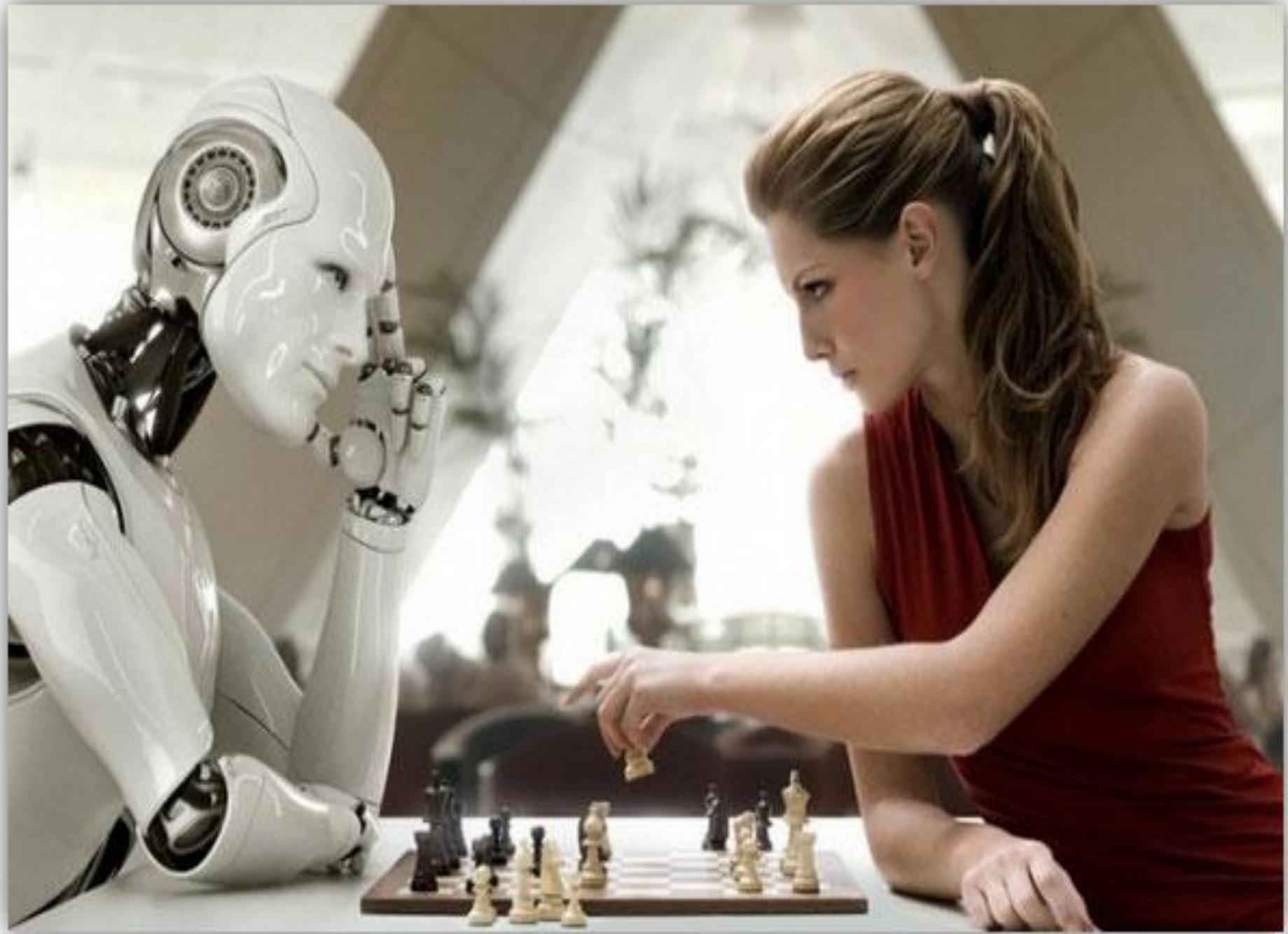
# 5<sup>th</sup> generation (Present and Beyond)

- Fifth generation computing devices, based on artificial intelligence, are still in development, though there are some applications, such as voice recognition.





TOSY





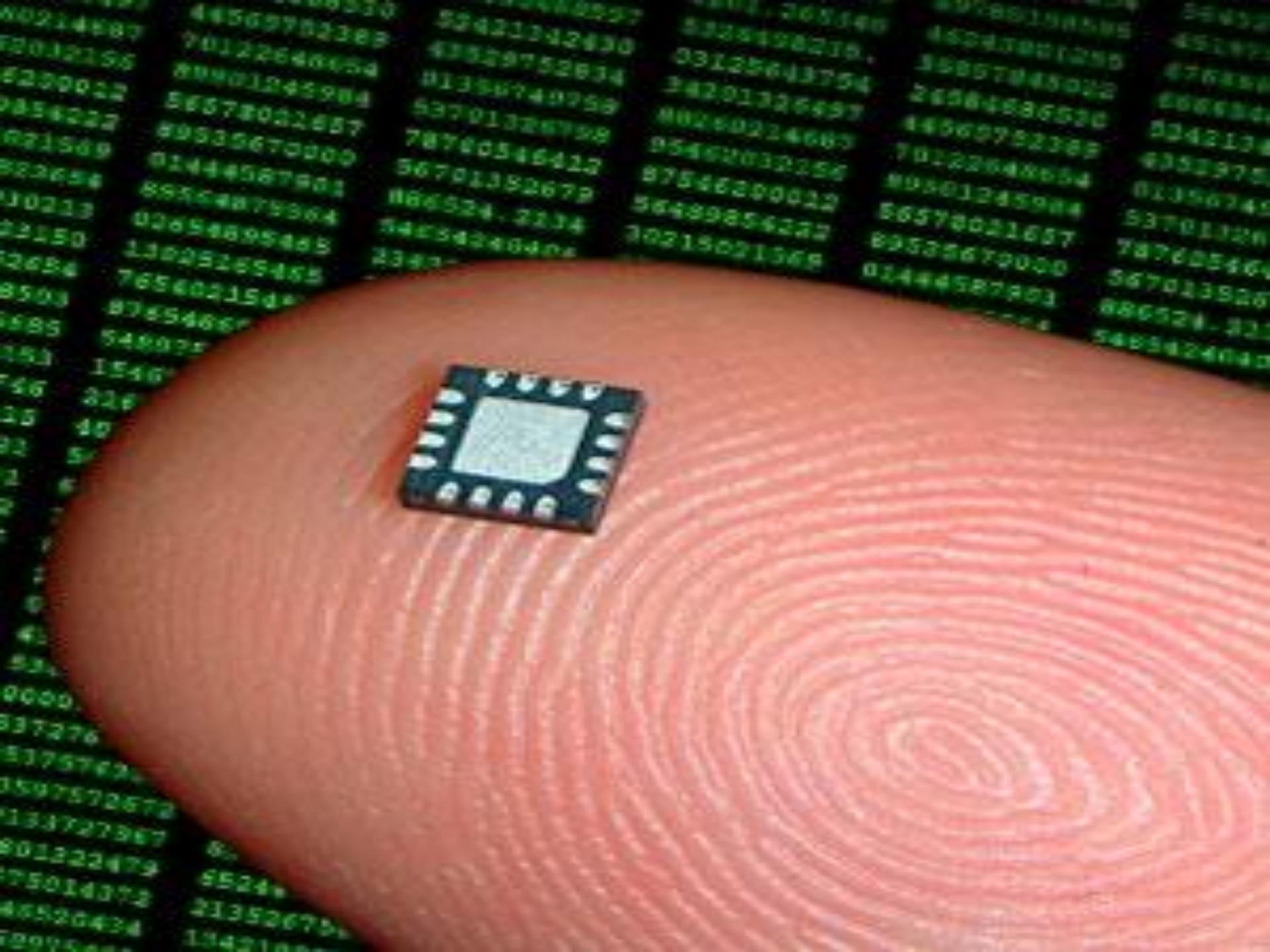








MICROCHIP  
PIC<sup>®</sup> MCU



# Type of Computers

- Super Computers
- Main Frame Computers
- Mini Computer
- Micro Computer
- Analog Computers

# Super Computers

- The *most powerful computers* in terms of performance and data processing are the supercomputers. These are specialized and task specific computers used by large organizations.















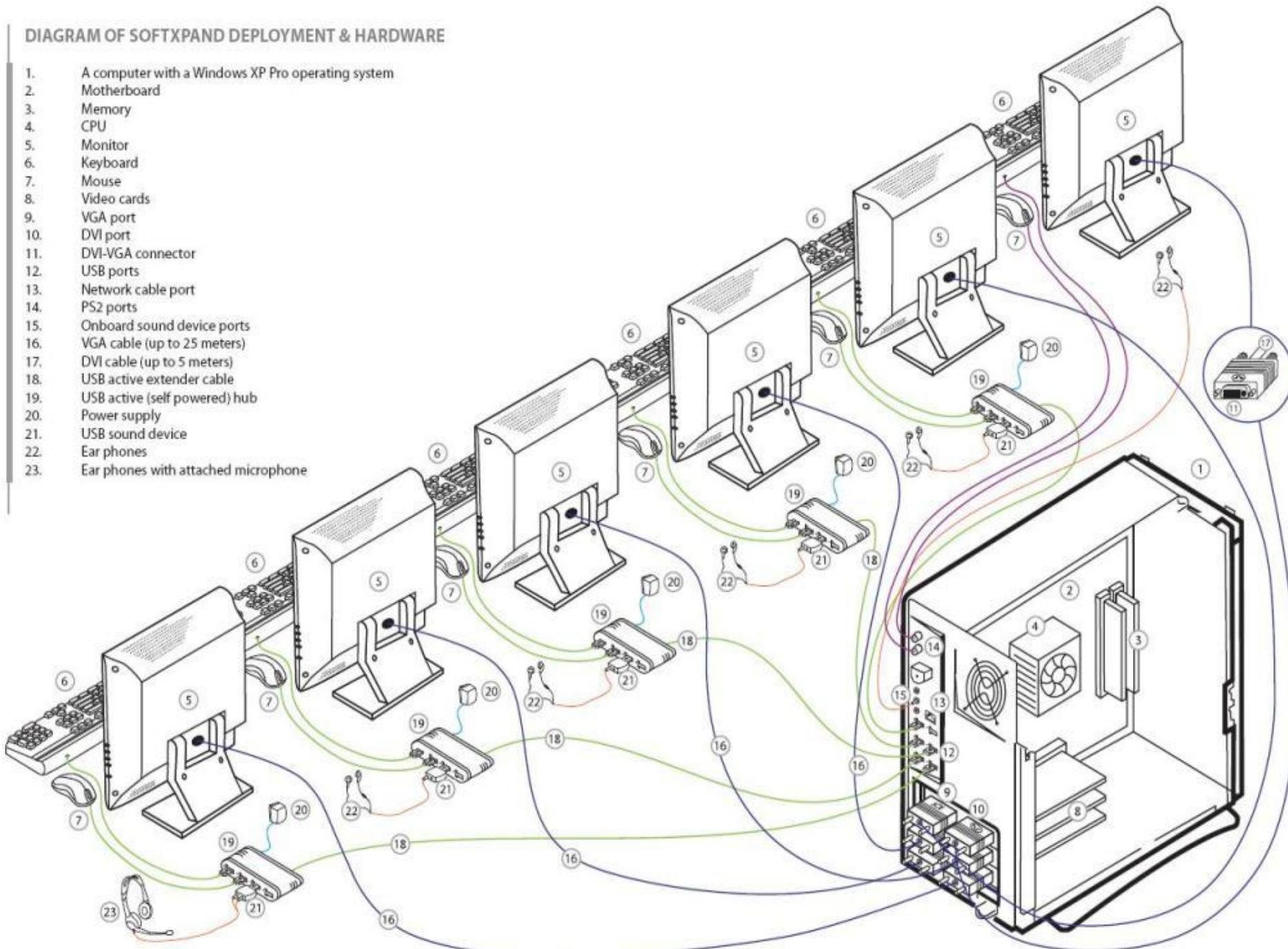
# Main Frame Computers

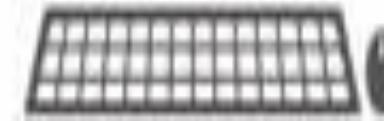
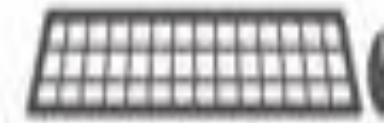
- Mainframes are not as powerful as supercomputers, but certainly they are quite expensive nonetheless, and many large firms & government organizations uses Mainframes to run their business operations.



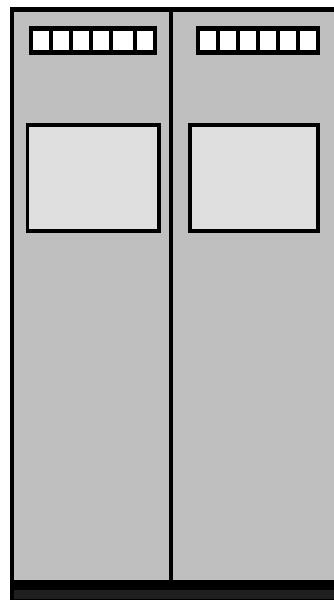
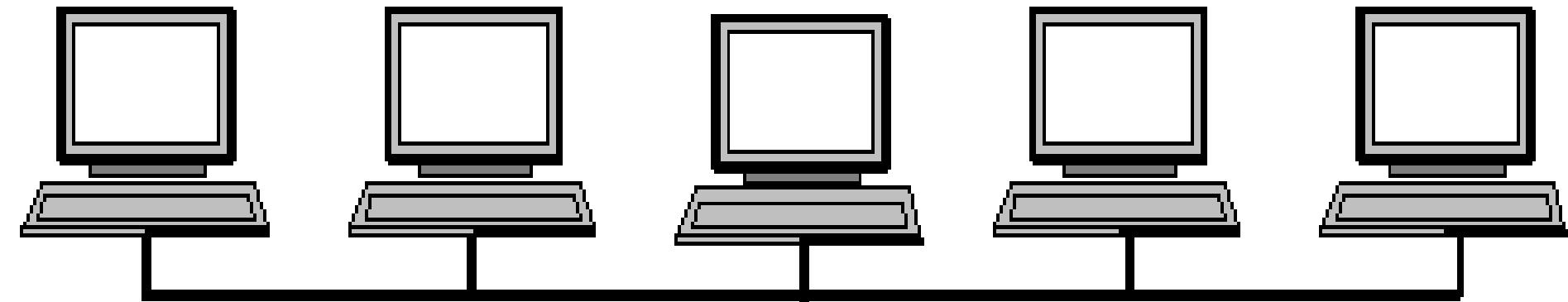
## DIAGRAM OF SOFTXPAND DEPLOYMENT & HARDWARE

1. A computer with a Windows XP Pro operating system
2. Motherboard
3. Memory
4. CPU
5. Monitor
6. Keyboard
7. Mouse
8. Video cards
9. VGA port
10. DVI port
11. DVI-VGA connector
12. USB ports
13. Network cable port
14. PS2 ports
15. Onboard sound device ports
16. VGA cable (up to 25 meters)
17. DVI cable (up to 5 meters)
18. USB active extender cable
19. USB active (self powered) hub
20. Power supply
21. USB sound device
22. Ear phones
23. Ear phones with attached microphone



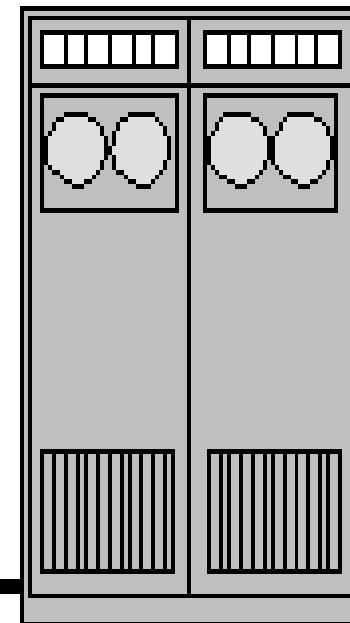


# Terminals



Disk Drives

COMPUTER  
(CPU)



Tape Drives

# Mini Computers

- Minicomputers are used by small businesses & firms.











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IMPC



SD WHOLESALE  
CHINA TRADE ONLINE



# Micro Computers

- Desktop computers, laptops, personal digital assistant (PDA), tablets & smart phones are all **types of microcomputers**. The microcomputers are widely used & the fastest growing computers.









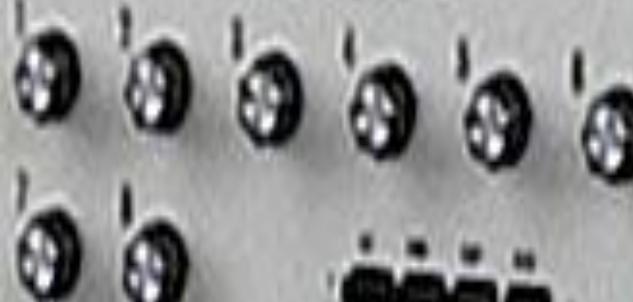




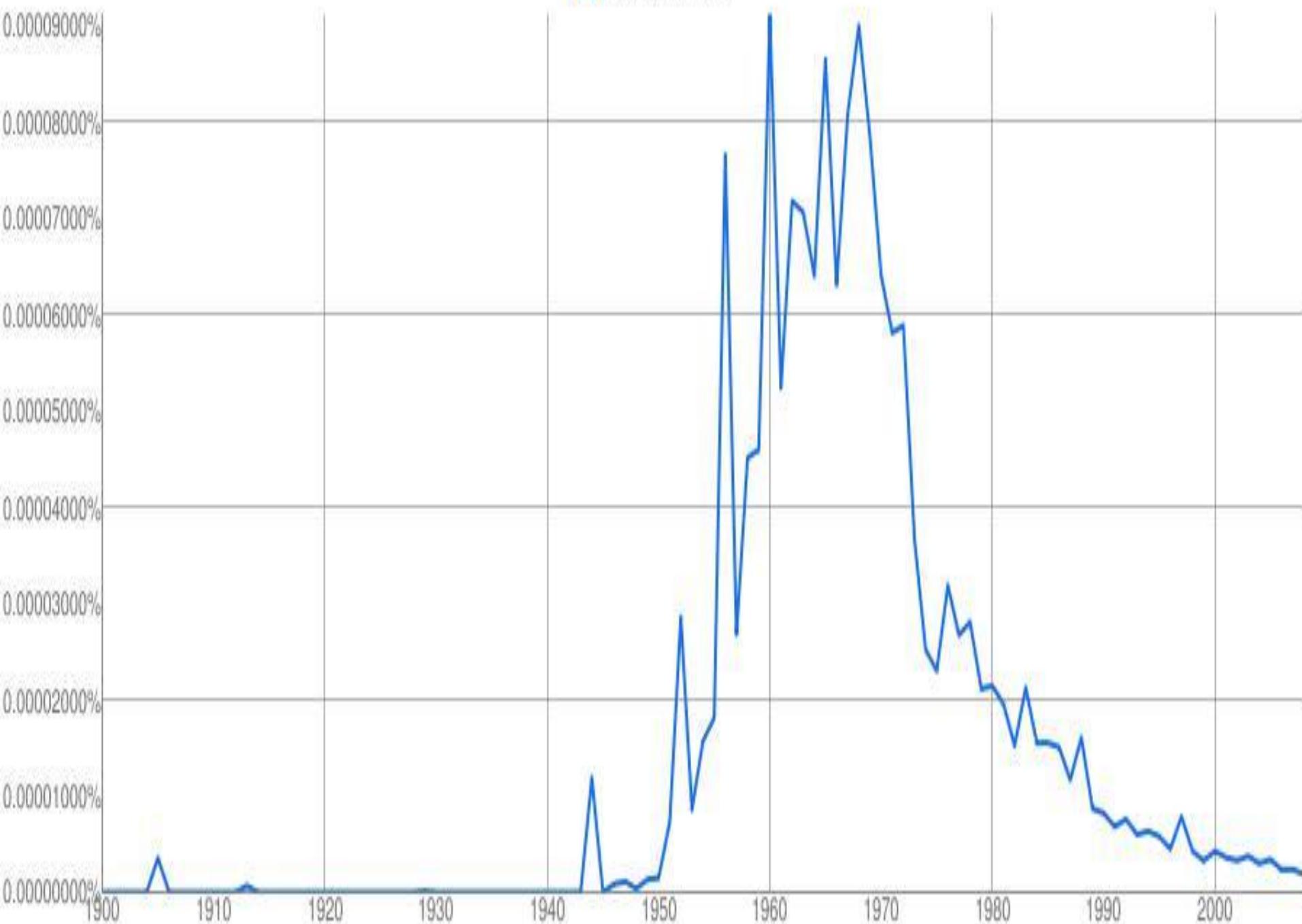
# Analog Computers

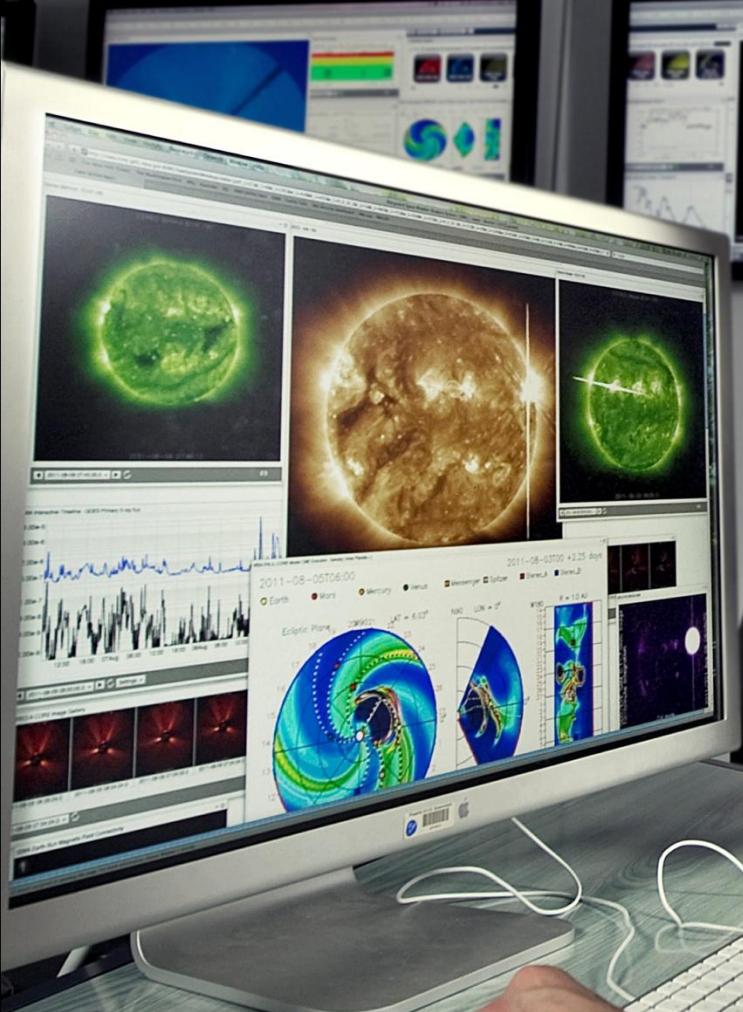
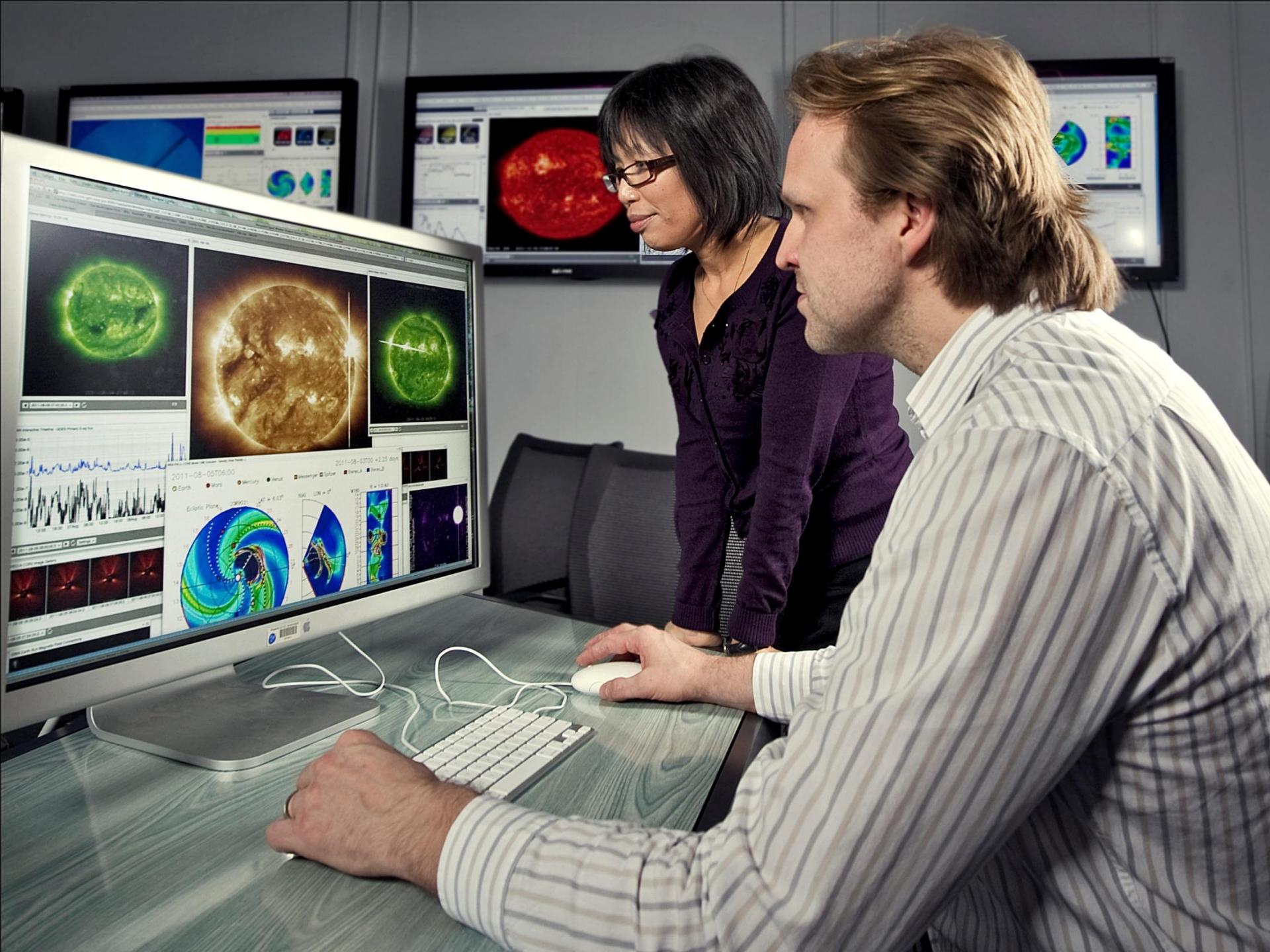
- **analog computer** is a form of **computer** that uses the continuously changeable aspects of physical phenomena such as electrical, mechanical, or hydraulic quantities to model the problem being solved.

**COMODYNA GP-6**



analog computer





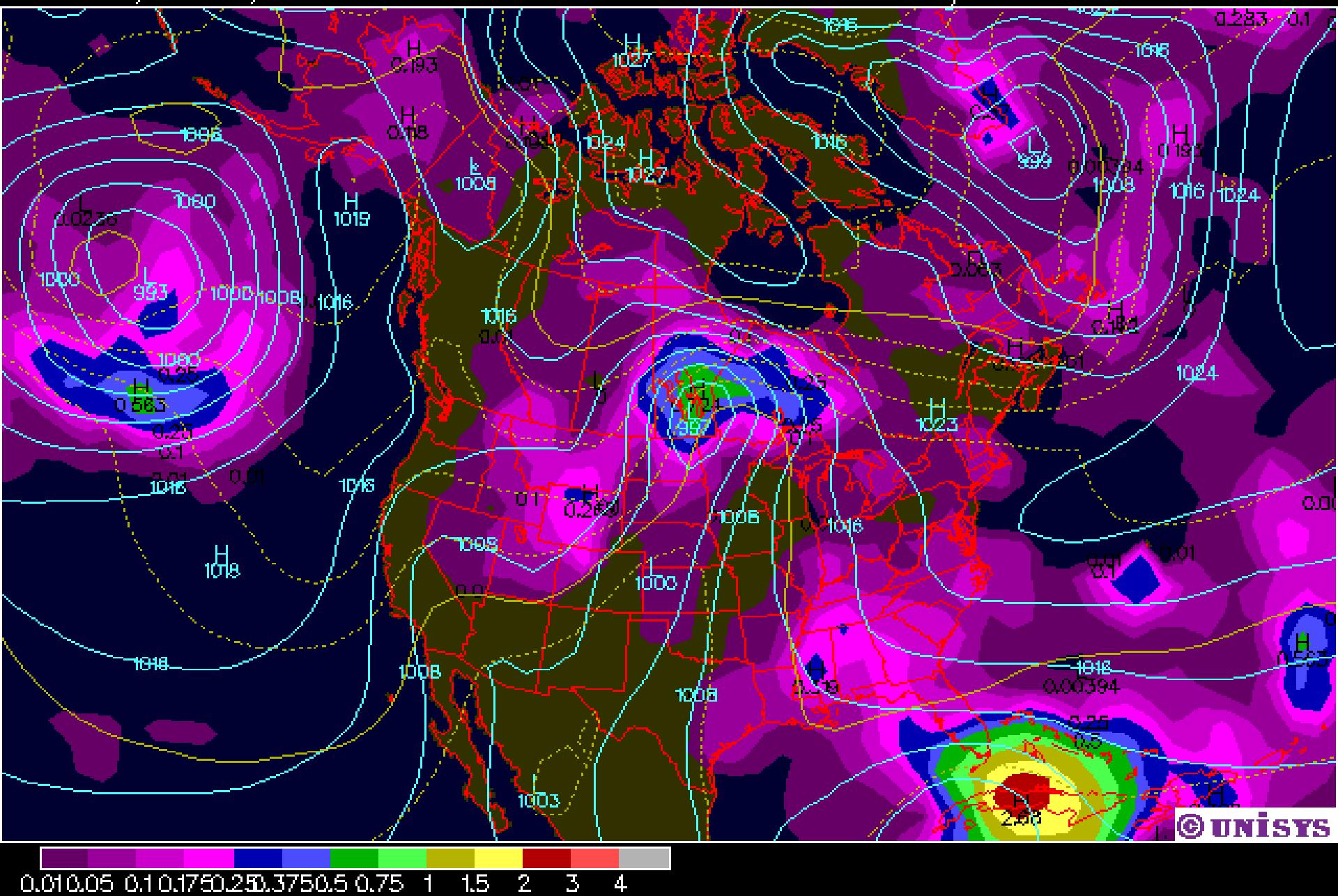






### Sfc Prec/SLPres/1000–500mb Thick

GFSX 10 day valid 00Z MON 21 MAY 12



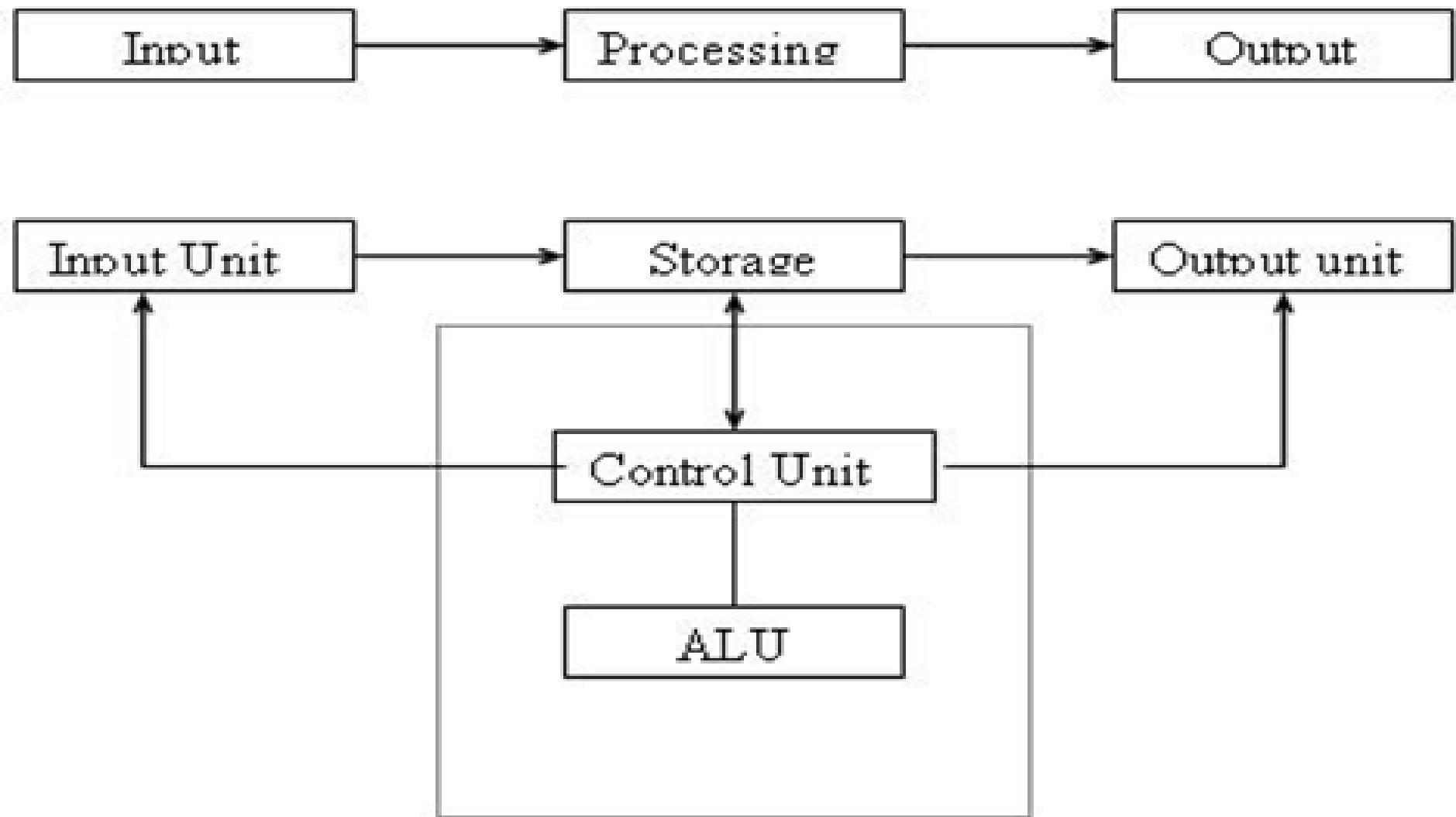
WATERFALLS ARE FASCINATING



# Characteristics of Computer

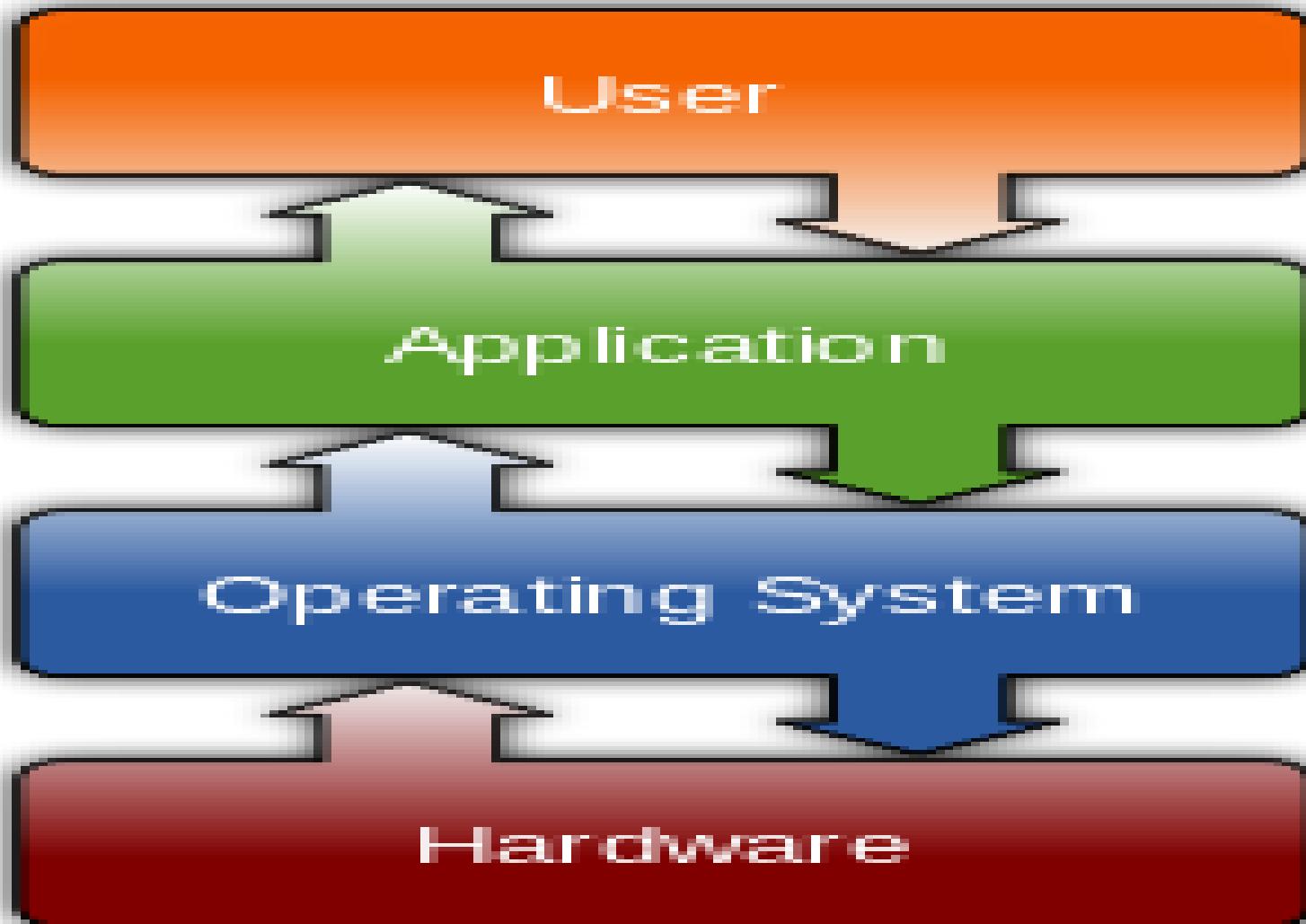
- Speed
- Accuracy
- Storage
- Diligence
- Versatility
- Power of Remembering
- No IQ
- No Feeling

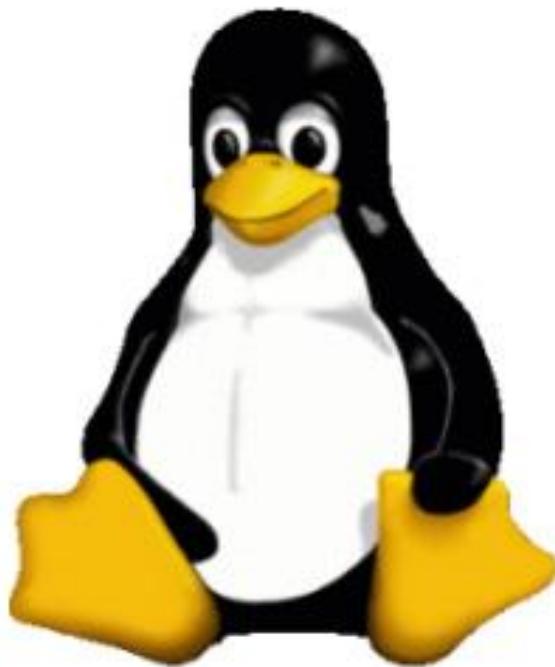
# Block Diagram of Computer



# Operating System

- An **operating system (OS)** is software that manages computer hardware and software resources and provides common services for computer programs.





# **Application Software**

Spreadsheets

Word processors

Databases

Computer  
Games

Internet  
Browsers

# **System Software**

Operating  
System

Utilities

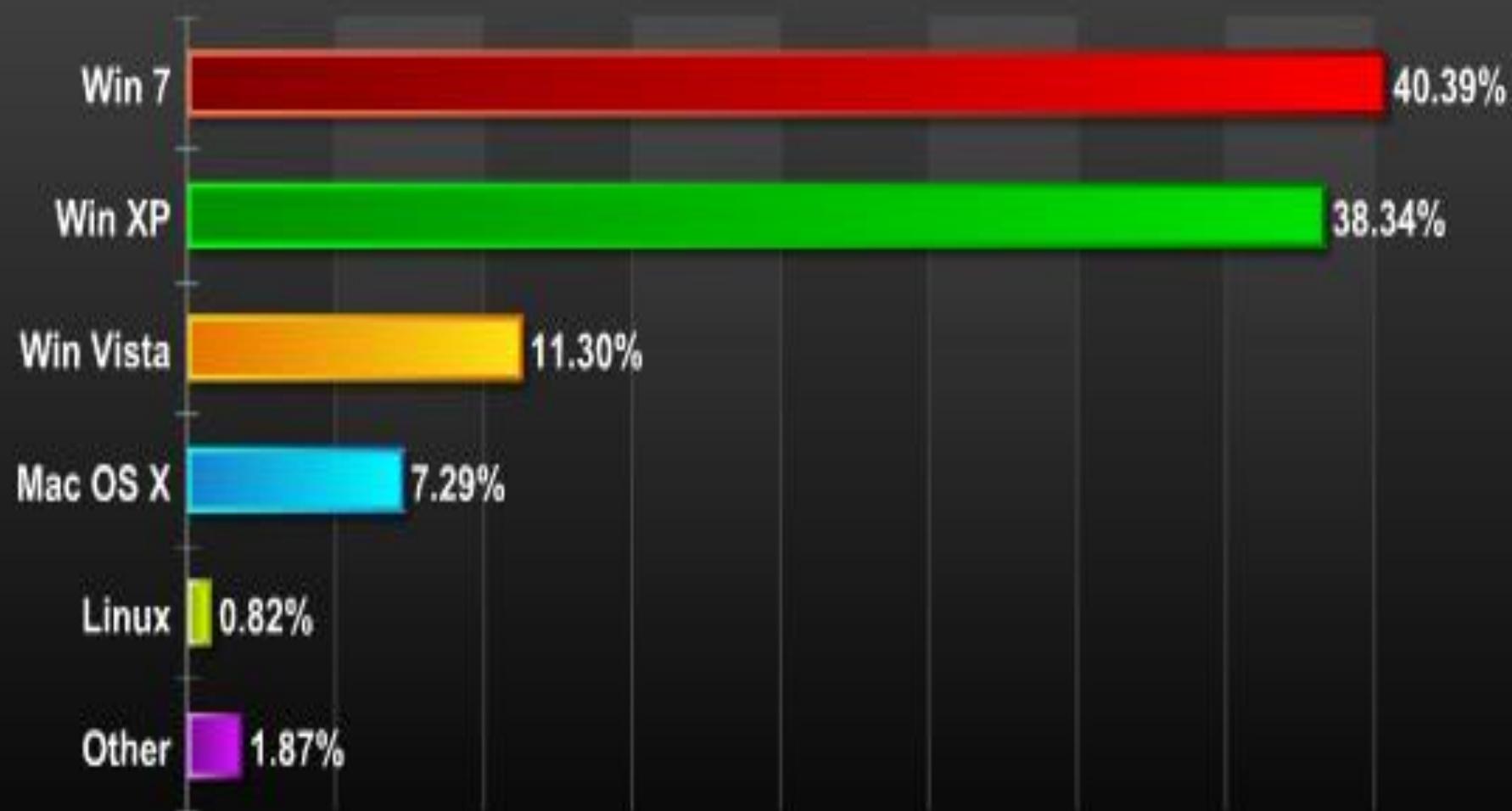
# **Hardware**

CPU, disks, mouse,  
printer, etc.

# Type of Operating System

- **Microsoft Windows**
- 95, 98, 2000, me, xp, 2003, win – 7, win -8, win – 10.
- **Linux**
- Fedora, ubantu, red hat, kali linux, back track
- **Android**
- Kit kat, lollipop, gingerbread and etc..

# Worldwide desktop OS market share, October 2011



Data source: StatCounter, first 10 days of October, based on web usage.

[www.pingdom.com](http://www.pingdom.com)