

Kazakh-American University



# **Generations of computer And Characteristics of a computer**

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# Generations of computer

Computer can be classified into five types according to generations i.e. time period

- . First generation computer
- . Second generation computer
- . Third generation computer
- . Fourth generation computer
- . Fifth generation computer

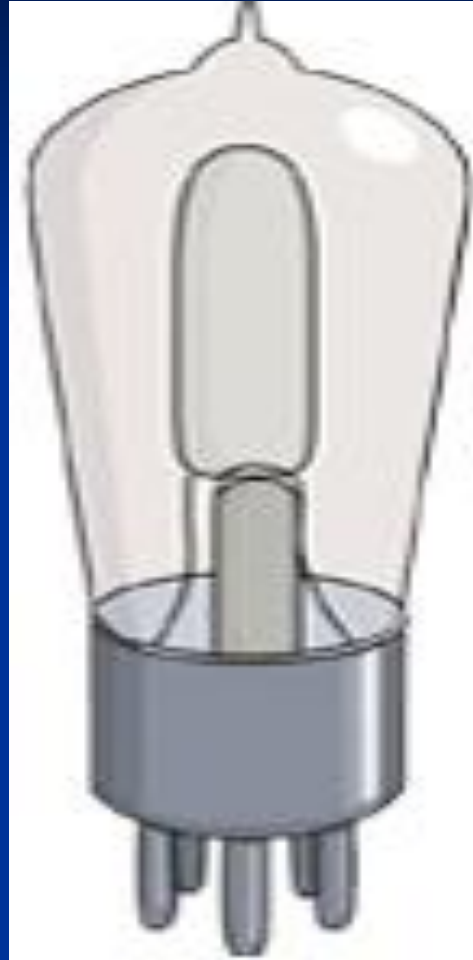
# . First generation computer

Period : 1945 – 1956

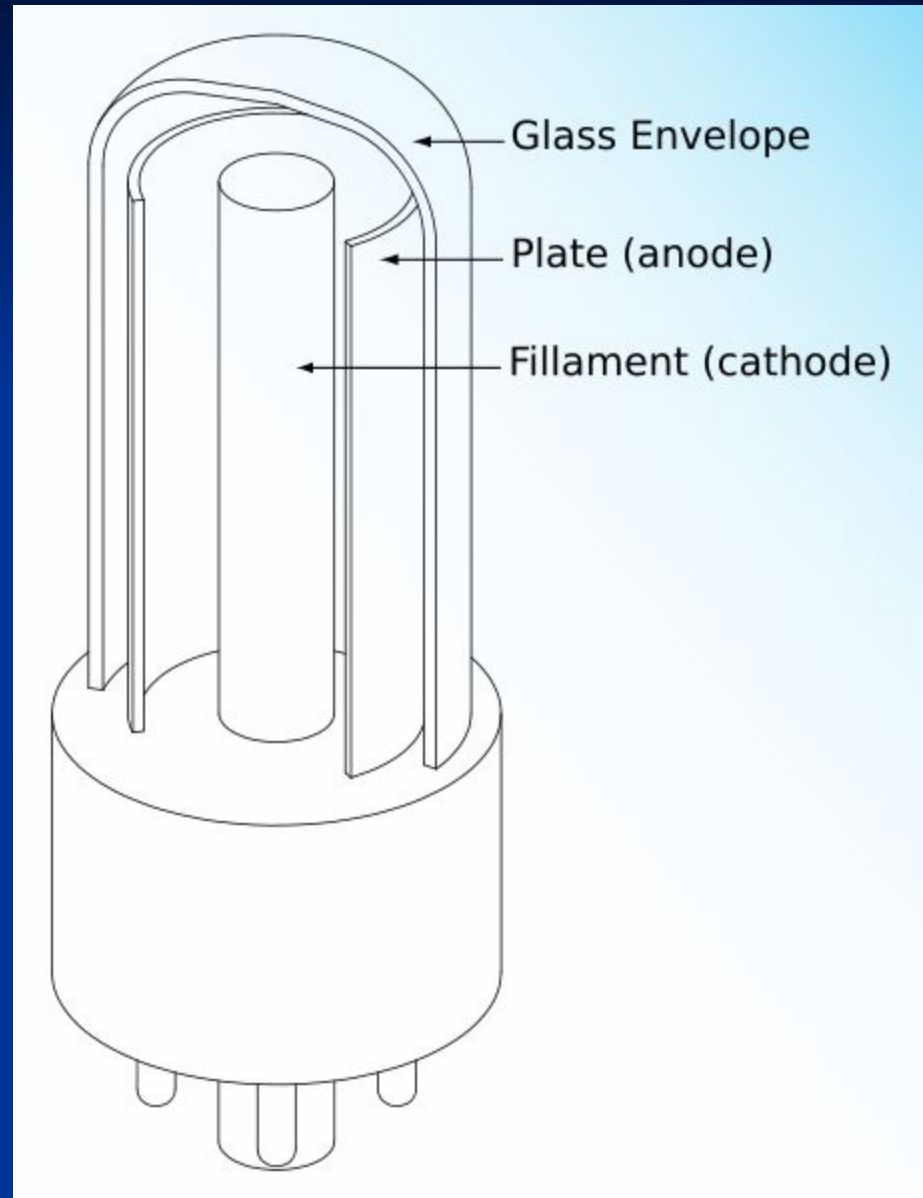
Inventor : Lee de Forest

Main processing device : Vacuum tubes

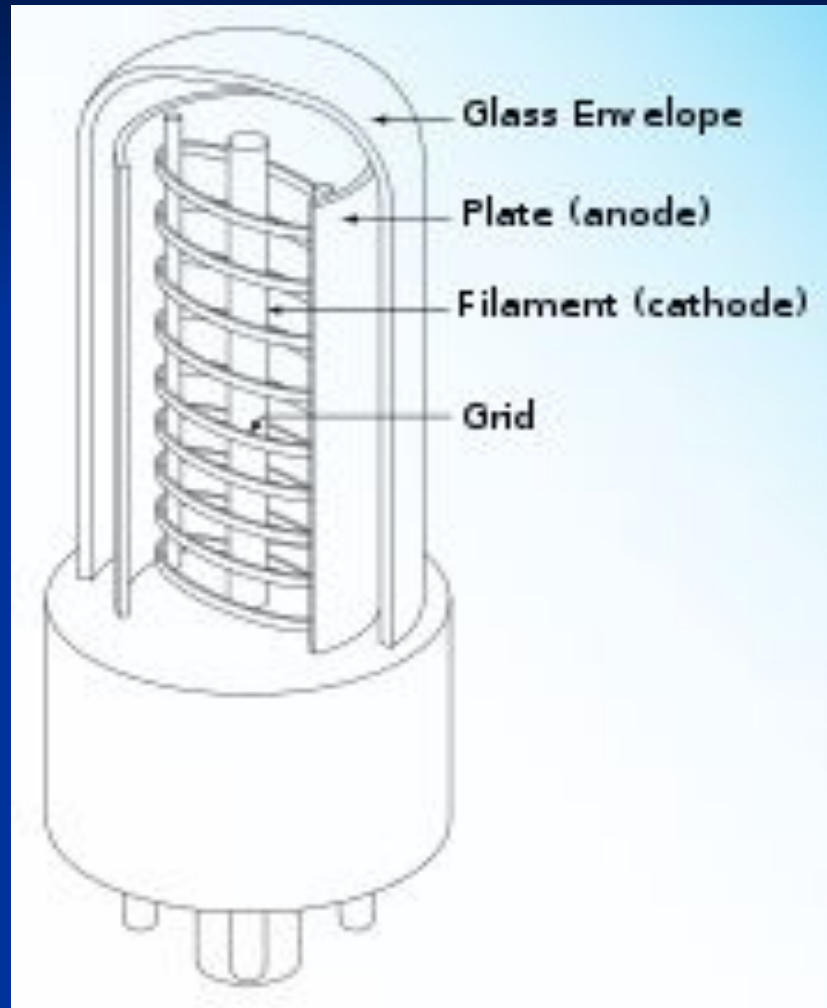
# Vacuum tube



# Vacuum tube



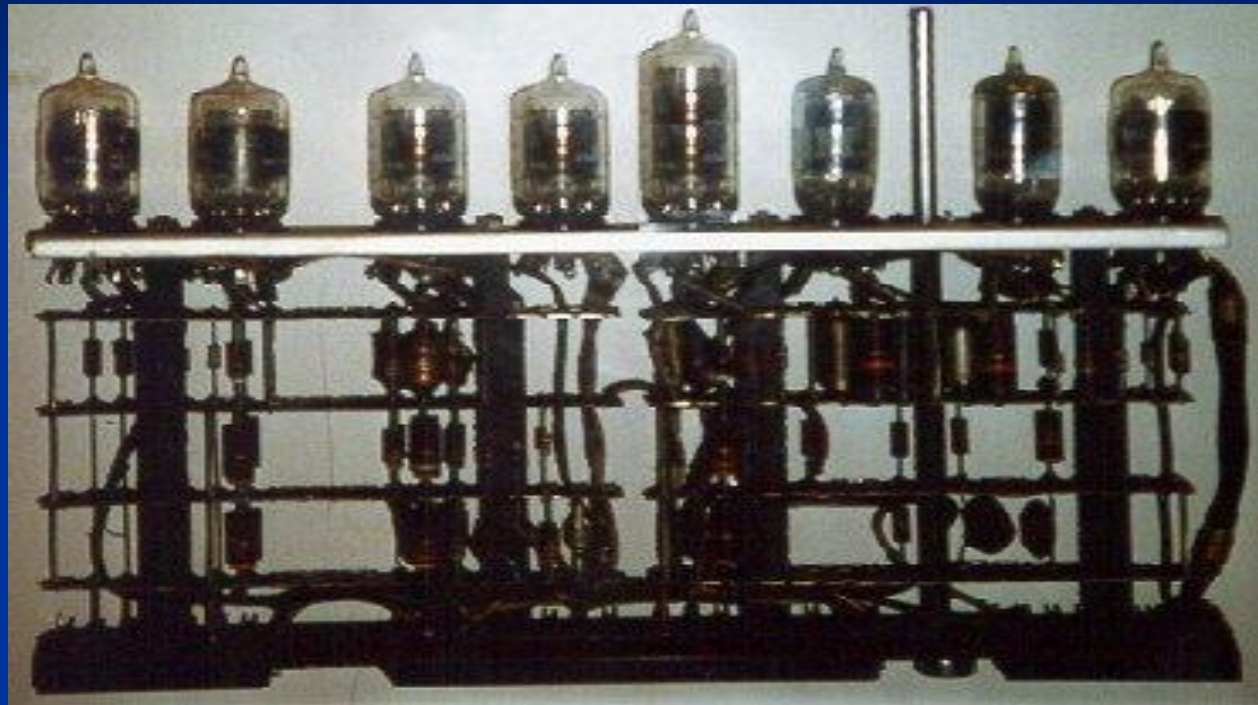
# Vacuum tube



# Vacuum tube

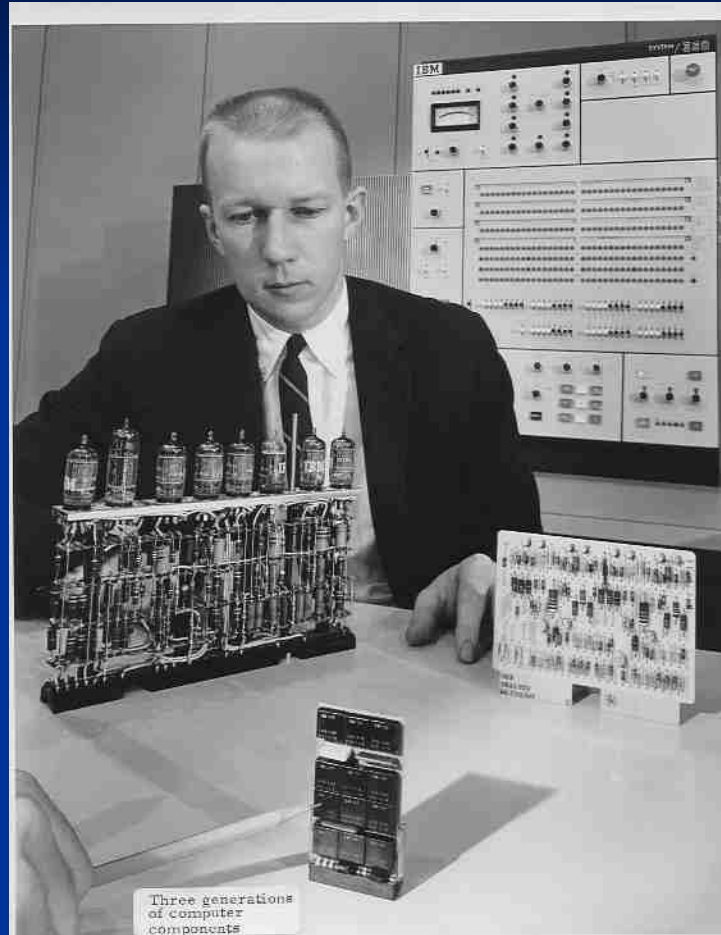


# Vacuum tubes





# Observing Vacuum tube



# Observing Vacuum tube



# Vacuum tube tester



# Punched cards



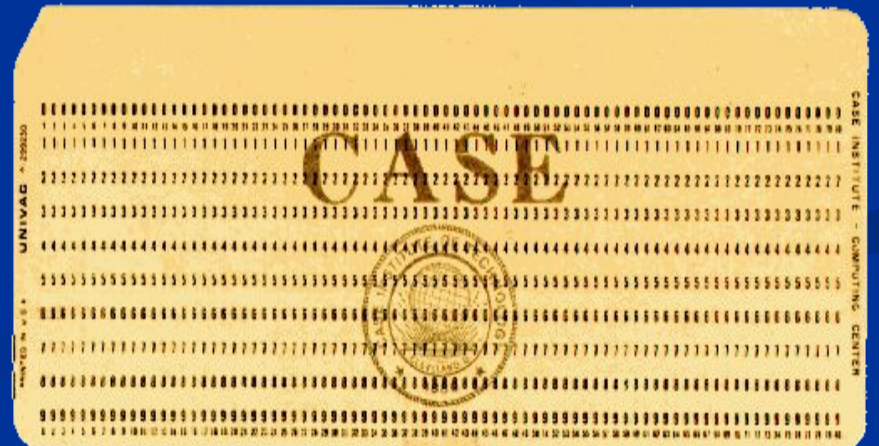
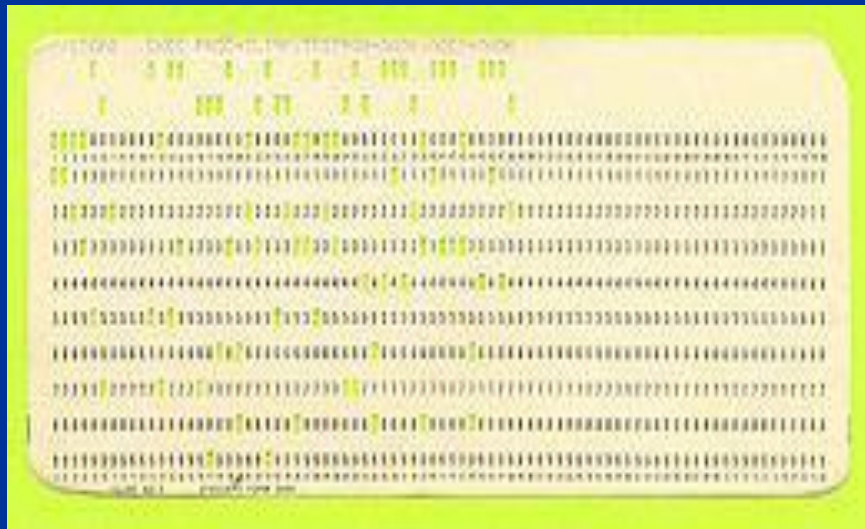
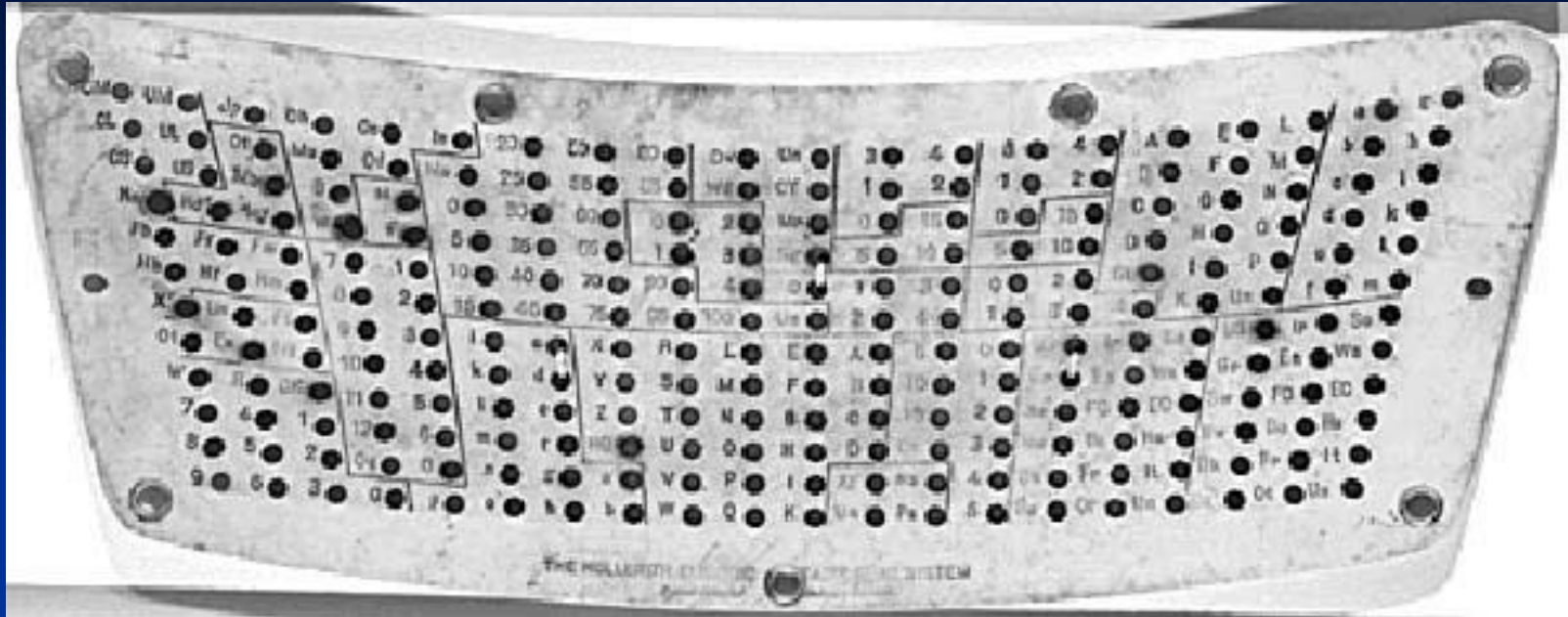
# Punched card voting



# Punched card decks



# Punched cards models



# Large punched cards



# . First generation computer

## Advantages :

- . It was only electronic device
- . First device to hold memory

## Disadvantages :

- . Too bulky i.e large in size
- . Vacuum tubes burn frequently
- . They were producing heat
- . Maintenance problems



**Too bulky i.e large in size**



# Vacuum tubes burn frequently



# Maintenance problems



# . Second generation computer

Period : 1956 – 1963

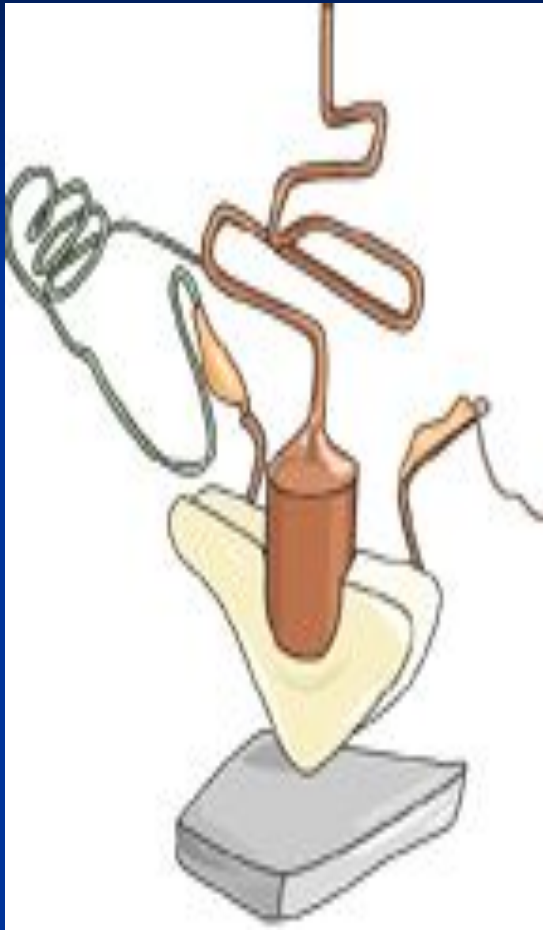
Inviter : William Shockley

Main processing device : Transistor

Storage media : Magnetic disc

# Transistor

1



2



# Transistor board



# . Second generation computer

## **Advantages :**

- . Size reduced considerably
- . The very fast
- . Very much reliable

## **Disadvantages :**

- . They over heated quickly
- . Maintenance problems

# . Third generation computer

Period : 1964 – 1971

Inviter : Jack Kilby

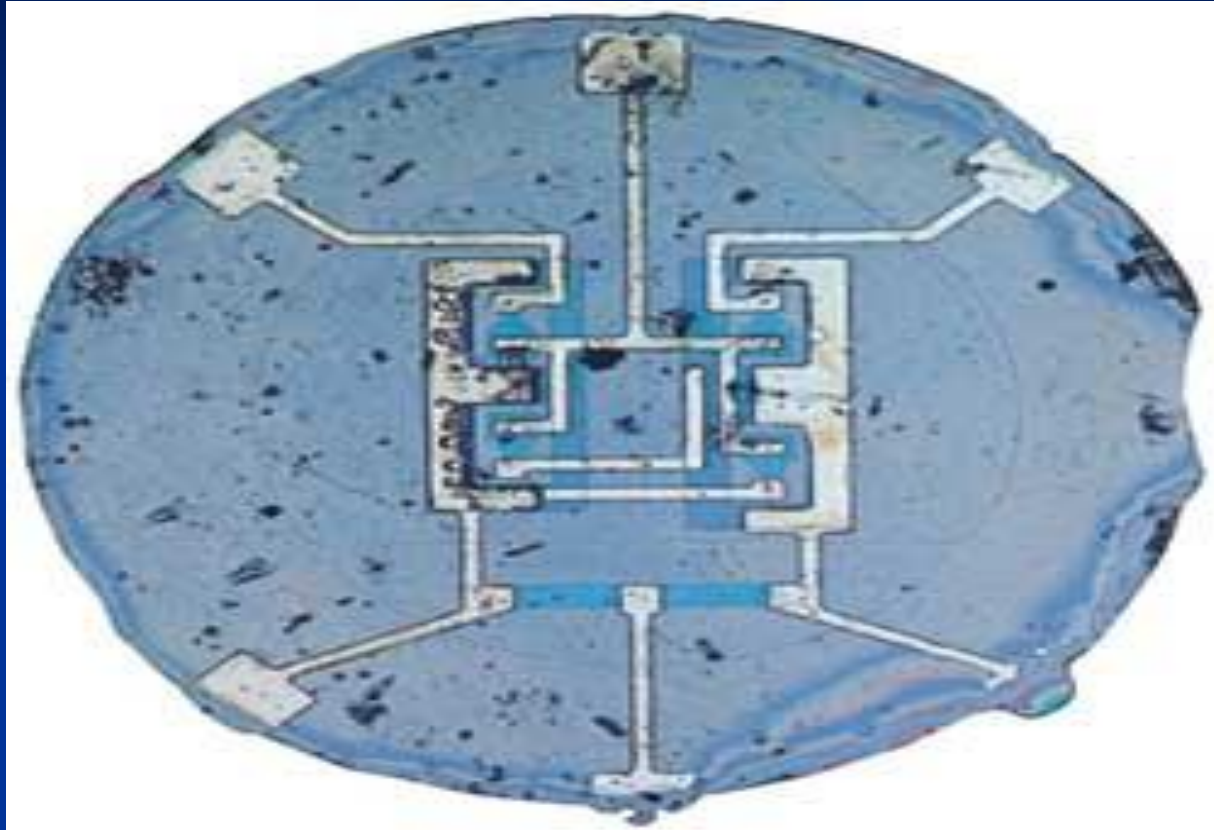
Robert Noyce

Main processing device : IC (integrated circuit)

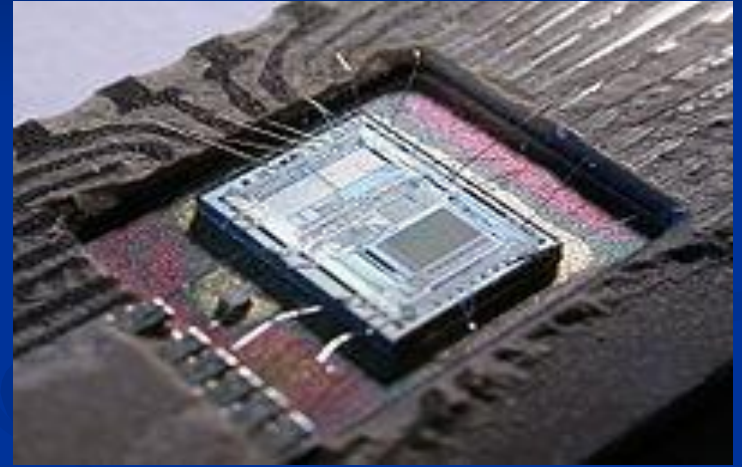
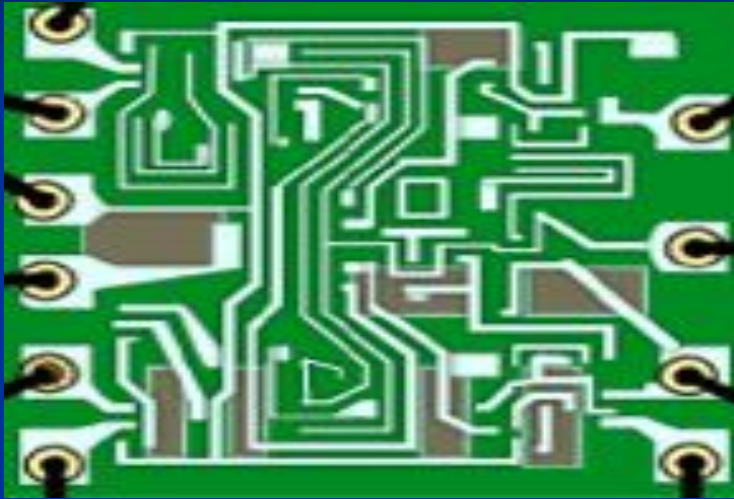
Storage media : Floppies



# IC (integrated circuit)



# ICs (integrated circuits)



# IC (integrated circuit)



# . Third generation computer

## **Advantages :**

- . ICs are very small in size
- . Improved performance
- . Production cost cheap

## **Disadvantages :**

- . ICs are sophisticated

# . Fourth generation computer

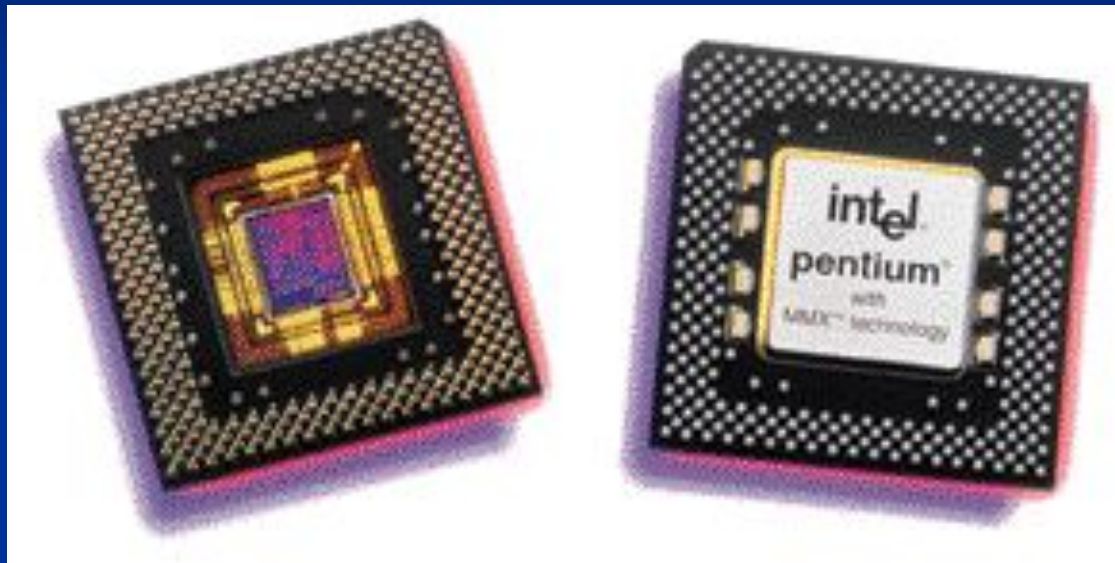
Period : 1971– present

Inviter : Ted Hoff

Main processing device : ICs with VLSI  
(Very Large Scale Integration)

Storage media : Floppies, CDs.

# ICs with VLSI (Very Large Scale Integration)



# . Fourth generation computer

## **Advantages :**

- . It is a compact
- . Less power consumption
- . Production cost is cheap

## **Disadvantages :**

- . No artificial intelligent.

# . Fifth generation computer

**Period : present and beyond**

**Main processing device : ICs with parallel processing**

**Storage media : Video disks**

**Advantages :**

- . Artificial intelligence
- . Expert system



. First generation computer . Second generation computer

Vacuum tubes

Transistors

. Third generation computer . Fourth generation computer

ICs

ICs with VLSI

. Fifth generation computer

ICs with parallel  
processing

**Thank you**