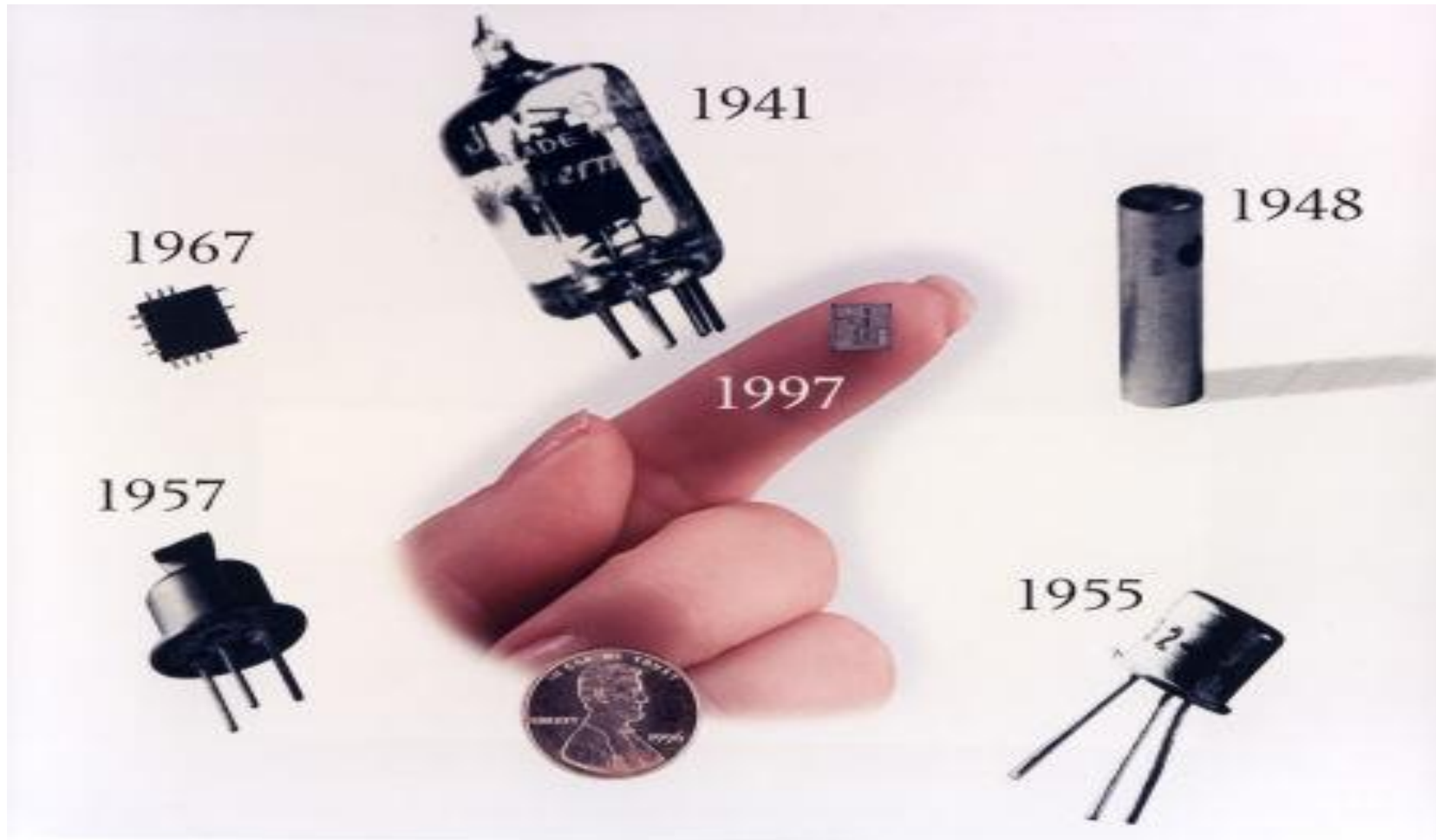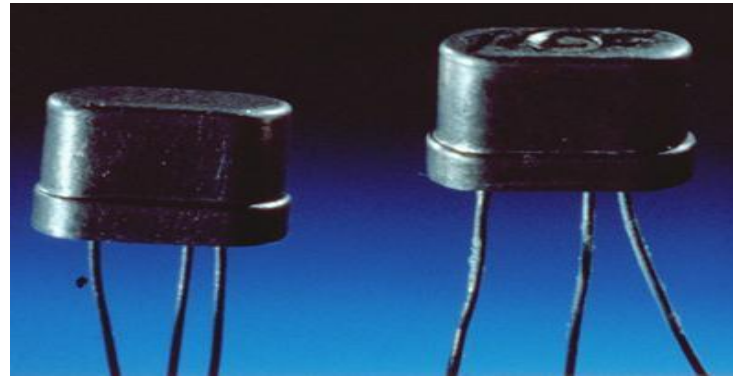# Second Generations Computers(1954-1962)
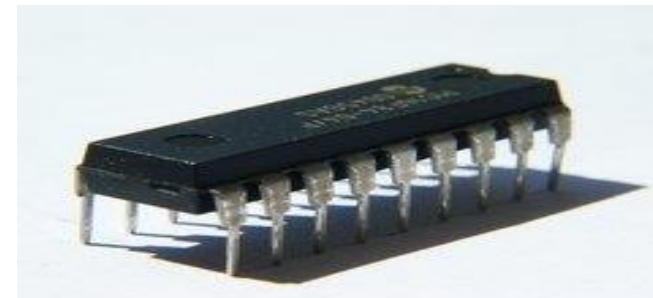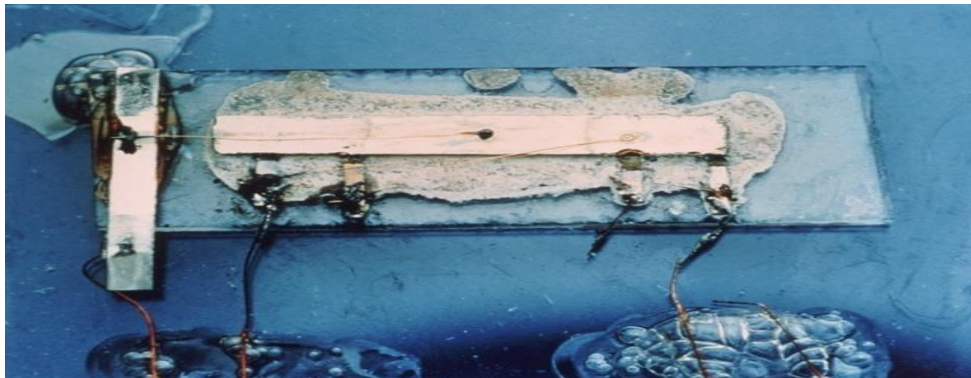
Second Generations Computers(1954-1962)

- The invention of the transistor greatly changed the computer's development in 1948. The transistor replaced the large, cumbersome vacuum tubes. The transistor was at work in the computer by 1956. Throughout the early 1960's, there were a number of commercially successful computers used in business, universities, and government from companies such as Burroughs, Honeywell, IBM, and others.

- These computers also contained transistors in place of vacuum tubes. They also contained all the components we associate with the modern day computer: printers, disk storage, memory, tape storage, operating systems, and stored programs.

Third Generation Computers(1963-1972)

- Uses **Integrated Circuit**, also known as the **silicon chip**, which revolutionized electronic. An entire electronic circuit, including wires, is all formed together on a single chip of silicon (its an element widely found in clay and sand). First used in IBM's System 360 computers.

- The First ICs were based on Small-Scale Integration (SSI) circuits, which are around 10 devices per circuit, and evolved to Medium-Scale Integration (MSI) which had up to 100 devices per chip.

Fourth Generations Computers(1971-1990's)

- **Large Scale Integration** (LSI-1000 devices per chip) **Very Large Scale Integration** (VLSI-100,000 devices per chip) was achieved

- uses **microprocessor**, a chip which contains all the main electronic components of a computer

- **4004 Chip** – was the first microprocessor introduces by Intel Corporation, it is a four bit processor with 2,200 transistors

Fifth Generations Computers(1990's)

- Introduction of machines with hundreds of processors that could be working on different parts of a single program. Scale of integration became millions of components per chip and semiconductor memories became standard in all computers.

- Both WAN (Wide area Network) and LAN (Local Area Network) technology developed at rapid pace.

- Development of various kinds of software used in general purpose task

- Development of system using Natural Languages

- 1993, Multimedia desktop computers; personal digital assistant PDA's are developed

- 1994, Apple and IBM introduce PC with full-motion video built wireless data transmission for small portable computers.

Sixth Generations

- Combinations of parallel/vector architecture were established and Fujitsu , a corporation, had announced plans to build a system with over 200 of its high end vector processors.

- Explosive growth of wide area networking.

- 2000, Teleconferencing replaces the majority on business travel

Types of Computers
Microcomputers

- also called personal computers (PCs), are computers typically used by a single user, usually at home or at the office. Its CPU consists of a single "chip" called a microprocessor. They come in many shapes or sizes:

1. **Personal Computers -** is a type of microcomputer designed to meet the computing needs of an individual.

    Desktop Computer - fits on a desk and runs on a power from an electrical wall outlet.

2. **Luggable** - weighs between 20 and 25 pounds; has a processor, monitor, disk drives and keyboard combined in one unit.

    -Example: IBM PS/2 Model P75

3. **Laptops** - is a portable computer equipped with a flat display screen and weighing 8-20 pounds. -Example: Toshiba's T6400MM

4. **Notebook computer** - is a portable computer that weighs 4-7.5 pounds and roughly the size of a thick notebook. 8 ½ x 11 inches in size

    -example: Zenith- Z Note and Macintosh Powerbook

Handheld Computers

- **Electronic Organizers** - are specialized pocket computers that mainly stores appointments, addresses, and to-do list. Recent version feature wireless links to other computers for data transfers. -Example: Sharp Wizard (15.2 ounces)

- **Palmtop Computers** - are small enough to hold in one hand and operate with other. They also use the same software as IBM PCs. -Example: Hewlett Packard 95LX (11 ounces)

- **Personal Digital Assistants (PDA)** - are small, pen-controlled, handheld computers that, in their most developed form, can do two-way wireless messaging. -example: Apple Newton Message Pad 110 (1.3 pound)

- **Pen Computers** - it lacks a keyboard or mouse but allows you to input data by writing directly on the screen by the used of stylus, or light pen. -Example : Sharp Expert Pad

Minicomputers

- Somewhat more powerful than a microcomputer and can carry out the processing tasks for several people working at terminals connected to it.

- **Workstations** – resembles a desktop computer, but typically features more processing power and storage capacity.

- **Servers** - are not designed to be used directly. They make programs and data available for people hooked up to a computer network, a collection of computers connected together so that they can exchange data.

Video Game Console

- such as Nintendo's Game cube, Sony's Play Station, Or Microsoft's X Box is computer, but Video game consoles have not been considered a computer category because of their history as dedicated game devices that connected to a TV set and provide only a pair of joystick for input.

Mainframes

- the oldest category of computer system

- are cabinet-size computer that are about the size of a jeep.

- used by business or government to provide centralized storage, processing, and management for large amounts of data

Supercomputers

- are high capacity machines that required special air-conditioned rooms and are the fastest calculating machines ever invented

- -used in weather forecasting and developing nuclear weapons

- - it could process more than 1 trillion instructions per second