

MODULE IN TLE 9 (COMPUTER SYSTEM SERVICING)

First Grading / Week 1 / Day 2

Name of Student: _____

Grade and Section: _____

Name of Teacher: _____

- Objectives:
- Identify and obtain materials necessary to complete the work in accordance with established procedures and system requirements.
- Distinguish the characteristics of computers that were introduced in every generation.
 - Identify and differentiate the different classification of computers according to its purpose.



WHAT TO KNOW

Lesson: Classification of Computers



In this lesson, you will be able to distinguish and describe the concept of the development of computers based on their capabilities, limitations, sizes, and functionalities.

Computers denote a digital device that performs a specific task depending on the set of instructions. The first electronic computers were introduced in 1940s. The computers were huge and require a group of people to operate compared to today’s computer. Not only thousands of times faster, they can also fit on your desk, lap or even in your pocket.

The given classifications of computers are listed according to technologies, data operations, storage capacities and functions.

ACCORDING TO TECHNOLOGY:	
1. First Generation (1951 – 1958) <i>Components:</i> Vacuum Tubes <i>Processing Speed:</i> 2000 instructions per/sec <i>Memory Capacity:</i> 1,000 – 4,000 bytes <i>Characteristics:</i> Quite large and produced enormous amount of heat; batch processing.	3. Third Generation (1964 – 1971) <i>Components:</i> Integrated Circuits (IC) <i>Processing Speed:</i> 10,000,000 instructions per second <i>Memory Capacity:</i> 32,000 – 3,000,000 bytes <i>Characteristics:</i> Smaller size, more reliable, greater speed and capacity than the 2 nd gen computers; ability to process several programs simultaneously; time- sharing; multi-programming.
2. Second Generation (1958 – 1964) <i>Components:</i> Transistors <i>Processing Speed:</i> 1,000,000 instructions/sec <i>Memory Capacity:</i> 4,000 – 32,000 bytes <i>Characteristics:</i> Smaller size, generated little heat, less expensive and required less power than the vacuum tube circuits; real- time processing; overlapped processing.	4. Fourth Generation (1971 – present) <i>Components:</i> Large Scale Integrated Circuits (LSIC) and Very Large-Scale Integrated Circuits (VSIC) chips <i>Processing Speed:</i> 100,000,000–1 billion instructions/sec <i>Memory Capacity:</i> up to more than 100 gigabytes <i>Characteristics:</i> Smaller in size, lesser power requirements, greater speed than the 3 rd generation computers; virtual memory.
5. Fifth Generation (present to future) <i>Characteristics:</i> Artificial Intelligence (AI) and Expert System. It is a specific field concerned with simulating the process of reasoning to shed light on the nature of rational thought. <i>Examples:</i> Robotics, Game-Playing, Language and Linguistic Communication.	
ACCORDING TO DATA OPERATION:	
1. Analog Computer A type of computer that manipulates process data in continuous form and normally operates revolving. Since the data are represented in continuous form, the actual results are not very accurate. This computer is almost extinct today. <i>Examples:</i> Thermometer, Watches, Barometer, Speedometer, Measuring Scales	
2. Digital Computer A type of computer that used digital circuit and is design to operate on two states namely bits 0 and 1. <i>Examples:</i> Digital Watch, Digital Weighing Scale	
3. Hybrid Computer A combination of analog and digital computers commonly known as “digi-ana” or “ana-digi”. <i>Examples:</i> Money Counting Machine, Automated Teller Machine (ATM)	
REFERENCES FOR FURTHER ENHANCEMENT <ul style="list-style-type: none"> Book: PC Assembly and Troubleshooting, page 2 Book: Understanding PC Hardware, page 2 YouTube: https://www.youtube.com/watch?v=CgcQVFEfOmA 	

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ACCORDING TO STORAGE CAPACITY OR MEMORY SIZE:

1. Supercomputer	Supercomputer is the most powerful computer available. This high capacity computer that run continuously is being used by very large organizations, mostly big corporations and government institutions. <i>Characteristics:</i> High capacity computer <i>Uses:</i> <i>Worldwide Weather Forecasting, Oil Research, Aircraft Design, Mathematical Research, NASA</i>
2. Mainframe Computer	This computer is water or air-cooled computer which is capable of great processing speed and data storage. <i>Characteristics:</i> Fast and large capacity computer and handled millions of transactions <i>Uses:</i> <i>Banks, Airlines, Insurance Companies, SSS, GSIS, BIR</i>
3. Minicomputer	A machine used either as single workstations or as a system feed by network to several terminals. <i>Characteristics:</i> Refrigerator-size machine <i>Uses:</i> <i>Used by medium-sized companies for specific purposes like accounting, inventory, payrolls, etc.</i>
4. Microcomputers	Microcomputer also known as Personal Computer (PC) is the most common and widely used computer today which you can see in homes, school and in most businesses. <i>Characteristics:</i> Computer that can fit on a desk <i>Uses:</i> <i>Work station and toolmaker computer.</i>



Microcomputers come in several sizes, as follows:

a. Desktop	A desktop is intended to be used on a single location where system unit sits on a desk, with keyboard and monitor located in front.
b. Laptop	It is a portable computer equipped with a flat display screen and weighs 3.5 to 8.9 kilograms. It is optimized for mobile use and runs on a single battery.
c. Netbook	Netbook falls in the category of laptop but is inexpensive and relatively smaller in size. It does not have built-in Digital Versatile Disc (DVD) or Compact Disc (CD) drives, and primarily meant for travel.
d. Personal Digital Assistant (PDA)	PDA is a handheld computer and commonly known as a palmtop. Modern PDAs have phone capabilities, web browser, internet, music and video.
e. Tablet	Tablet is a mobile computer that is very handy to use. It uses the touch screen technology.
f. Wearable Computer	This computer can be worn on the body and often used in the study of behavior modeling and human health.



ACCORDING TO FUNCTION:

1. Special Purpose Computer	This computer is used for special purposes and usually expensive. <i>Examples:</i> <i>Computer to control LRT, Traffic Lights, ATM</i>
2. General Purpose Computer	It can store different programs and performs variety of functions such as inventories, payroll, billing, etc. <i>Examples:</i> <i>Personal Computer, Respirator in the Hospital and Computers in Making Cars</i>

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WHAT TO PROCESS

EXERCISE 1: DIFFERENTIATE

Directions: Differentiate the following types of computers, write your answer on the space provided.

- 1. Desktop and Laptop _____
- 2. Analog and Digital Computers _____
- 3. Transistors and Vacuum Tubes _____
- 4. Supercomputers and Mainframe Computers _____
- 5. Special Purpose Computer and General Purpose Computer _____

EXERCISE 2: ACRONYM

Directions: Give the acronyms of the following terminology:

- 1. "ana-digi" - _____
 - 2. AI - _____
 - 3. CD - _____
 - 4. PDA - _____
 - 5. VSIC - _____
- 6. ATM - _____
 - 7. DVD - _____
 - 8. LSIC - _____
 - 9. PC - _____
 - 10. IC - _____

EXERCISE 3: FILL THE BOX

Directions: Computers are classified broadly into five generations based on technology. Fill-in the boxes below the generation/years, component, and characteristics of computer built in their respective period.

	Generation/Year	Components	Characteristics
1			
2			
3			
4			
5			

THINGS TO REMEMBER!

Classifications of Computers

- 1. According to Technology: 1st Gen, 2nd Gen, 3rd Gen, 4th Gen and 5th Gen
- 2. According to operation: Analog, Digital and Hybrid computers
- 3. According to storage capacity: Supercomputer, mainframe computer, minicomputer, and microcomputer
- 4. Microcomputers according to sizes: Desktop, Laptop, Netbook, PDAs, Tablet, Wearable computer
- 5. According to Function: Special Purpose computer and General-Purpose Computer



EVALUATION: DISTINGUISH

Directions: Distinguish the classification of computers being described in the following sentences. Choose your answer below and write the letter only of your answer in the space provided.

- A. According to Technology**

B. According to Operation
- C. According to Storage Capacity**
- D. According to Function**

E. Microcomputers
- _____ 1. A type of computer which is intended to be used on a single location.

_____ 2. They use digital circuits and are designed to operate on two binary numbers, namely bits 0 and 1.

_____ 3. It can store different programs and performs variety of functions such as inventories, payroll, billing, etc.

_____ 4. It is a handheld computer and popularly known as palmtop.

_____ 5. These computers can be worn on the body and are often used in the study of behavior and human health.

_____ 6. An air-cooled computer that can handle millions of transactions.

_____ 7. The most widely used computers nowadays which you can see in schools and offices.

_____ 8. They fall in the category of laptops, but are inexpensive and smaller in size.

_____ 9. This computer introduced the use of Integrated Circuits and time sharing.

_____ 10. This computer is almost extinct today

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