# 10

CITY SCHOOLS DIVISION OF DASMARIÑAS

# TLE

## COMPUTER SYSTEMS SERVICING

**SELF- LEARNING MODULE**

# TLE

# Computer Systems Servicing

## QUARTER 2

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### Guide in Using Learner's Module

**For the Parents/Guardian**

This module is designed to assist you as the learning facilitator at home. It provides you with activities and lessons' information that the learners need to accomplish in a distance learning modality.

**For the Learner**

This module is designed to guide you in your independent learning activities at your own pace and time. This also aims to help you acquire the competencies required by the Department of Education (DepEd) at the comfort of your home.

You are expected to answer all activities on separate sheets of paper and submit the outputs to your respective teachers on the time and date agreed upon.

# Week 1
# What I need to know?

In this module you are able to understand more about proper procedures in installing and configuring peripherals devices in the computer system. A peripheral device is generally defined as any auxiliary device such as a computer mouse or keyboard that connects to and works with the computer in some way. Other examples of peripherals are expansion cards, graphics cards, image scanners, tape drives, microphones, loudspeakers, webcams, and digital cameras. RAM—random access memory—straddles the line between peripheral and primary component; it is technically a storage peripheral, but is required for every major function of a modern computer and removing the RAM will effectively disable any modern machine.

Upon completion of the module, you should be able to:

a. identify the different peripherals/devices that can be installed in a computer system based from system requirements
b. understand the concept of installing peripherals/devices in accordance with established installation procedures
c. apply proper step by step procedures in installing peripherals/devices

Your target output for each lesson for this module are as follows:

| **LESSON/ TOPIC** | **Most Essential Learning Competencies** | **Learning Task/ Application/Assessment** | **Duration** |
|---|---|---|---|
| Installation and Configuration of Peripheral Devices | LO3.2 which is Install peripherals/ devices in accordance with manufacturer's instructions and/ or OS installation procedures | Learning Task 1: Self-Assessment<br><br>Learning Task 2: Pretest<br><br>Learning Task 3: Identifying Peripheral Devices | 5 days |

| | | | |
|---|---|---|---|
| | | Learning Task 4: STEP-BY-STEP<br>Learning Task 5: Incident Report<br>Learning Task 6: Reflection | |

**Learning Task 1: Self-Assessment**

Hi! You are about to start this module. Before anything else, take this SELF-ASSESSMENT survey questionnaire.

| **Installation and Configuration of Peripheral Devices** | | |
|---|---|---|
| Can I…….. | **YES** | **NO** |
| Determine requirements of task in accordance with the required output | | |
| Select appropriate procedures for installation and configuration according to task assigned and required outcome | | |
| Plan a task to ensure that OHS guidelines and procedures are followed during installation and configuration of | | |
| Follow client-specific guidelines and procedures | | |

Well done! How many of those in the survey are you knowledgeable of? Do not worry because you are able to learn more upon completion of this module.

**Learning Task 2: Pretest.** Given the scrambled letters of different computer peripheral devices, write down the correct answer on the space provided.

1. **WREOP PLPYUS INTU** _____
2. **MDAORN ESCSCA YREMOM** _____
3. **KORTWNE NIRETEACF DRAC** _____
4. **DHRA IDREV** _____
5. **INONPASXE RCDA** _____

# I What is new?

**WHAT IS A PERIPHERAL DEVICE?**

A peripheral device is an internal or external device that connects directly to a computer or other digital device but does not contribute to the computer's primary function, such as computing. It helps end users access and use the functionalities of a computer.

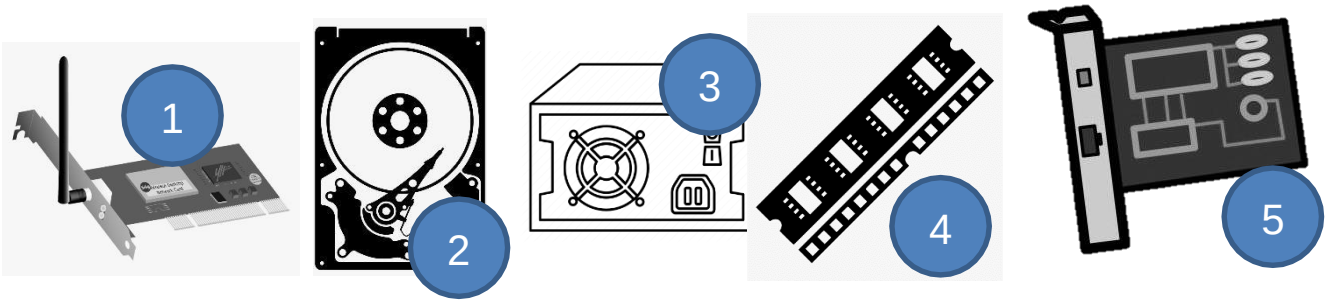
A peripheral device is also called a peripheral, computer peripheral, input-output device, or I/O device.

Peripheral devices include the following:

| | |
|---|---|
| Mouse | Scanner |
| Keyboard | Speakers |
| Printer | External Drive |
| Monitor | USB Flash Drive |
| Webcam | CD-ROM |
| Printer | |

**Learning Task 3: Identifying Peripheral Devices**
Identify the following peripherals. Write it in your separate answer sheet.

1. N_____I_____C _____
2. H_____D_____
3. P_____S_____U _____
4. R_____A_____M_____
5. E_____C_____



# D What is it?

## INSTALLING A NETWORK INTERFACE CARD

To connect a computer to your network, the computer must have a network interface. Virtually all computers sold in the last 10 years or so have a network interface built-in on the motherboard.

However, you may still encounter the occasional older computer that doesn't have a built-in network interface. In that case, you must install a network interface card to enable the computer for your network. Installing a network interface card is a manageable task, but you have to be willing to roll up your sleeves. If you've ever installed one of these cards, you can probably install a network interface card blindfolded.

1. **Assemble your materials**. Gather up the network card and the driver disks. While you're at it, get your Windows installation CD just in case.
2. **Shut down Windows, turn off the computer and unplug it.** Never work in your computer's insides with the power on or the power cord plugged in!
3. **Remove the cover from your computer.** If you have a name-brand computer such as a Dell or a Compaq, opening the cover may be trickier than just removing a few screws. You may need to consult the owner's manual that came with the computer to find out how to open the case.
4. **Find an unused expansion slot inside the computer.** The expansion slots are lined up in a neat row near the back of the computer; you can't miss them. Any computer less than five years old should have at least two or three slots known as PCI slots.
5. **Remove the metal slot protector from the back of the computer's chassis.** If a small retaining screw holds the slot protector in place, remove the screw and keep it in a safe place because you will need it later. Then pull the slot protector out and discard.
6. **Insert the network interface card into the slot.** Line up the connectors on the bottom of the card with the connectors in the expansion slot and then press the card straight down. Sometimes you have to press uncomfortably hard to get the card to slide into the slot.

7. **Secure the network interface card.** Remember that screw you put in a safe place. Use it to stabilize the network interface card.

8. **Put the computer's case back together.** Watch out for the loose cables inside the computer; you don't want to pinch them with the case as you slide it back on. Secure the case with the screws that you removed earlier.
9. **Plug in the computer and turn it back on.** If you're using a Plug and Play card with Windows, the card is automatically configured after you start the computer again. If you're working with an older computer or an older network interface card, you may need to run an additional software installation program. See the installation instructions that come with the network interface card for details.

## INSTALL SERIAL ATA (SATA) HARD DRIVES

Serial ATA interface disk drives are designed for easy installation. With a Serial ATA interface, each disk drive has its own cable that connects directly to a Serial ATA host adapter or a Serial ATA port on your motherboard. Unlike Parallel ATA, there is no master-slave relationship between drives that use a Serial ATA interface. Because of this, there is no jumper to set to make a Serial ATA drive a master or slave on its cable, as it will be the only drive connected to that data cable.

### Handling Precautions

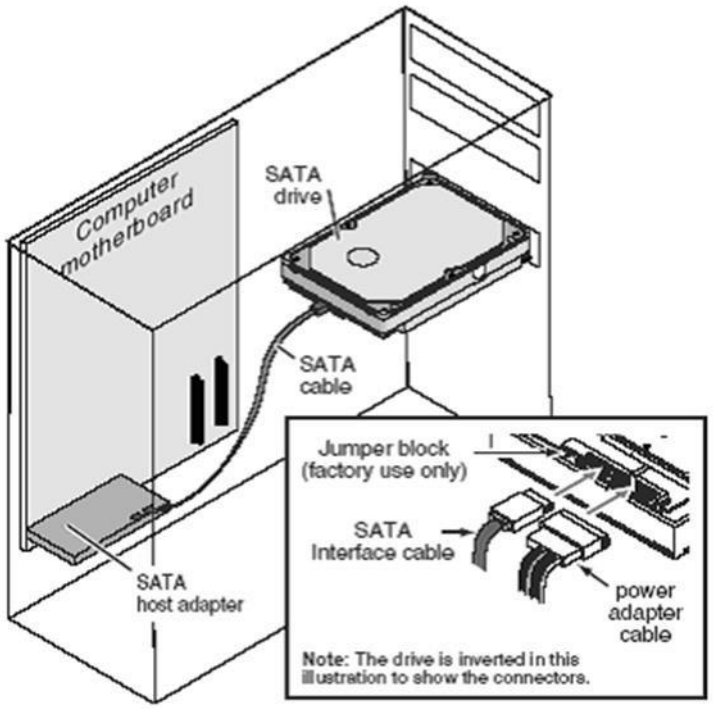
• Disc drives are fragile. Do not drop or jar the drive. Handle the drive only by the edges or frame. Keep the drive in the protective anti-static container until you are ready to install it to minimize handling damage.
• Drive electronics are extremely sensitive to static electricity. While installing the drive, wear a wrist strap and cable connected to ground.
• Turn off the power to the host system during installation.
• Do not disassemble the drive. Doing so voids the warranty.
• Do not apply pressure or attach labels to the circuit board or to the top of the drive.

### Attaching Cables and Mounting the Drive

1. Attach one end of the drive interface cable to the Serial ATA interface connector on your computer's motherboard or Serial ATA host adapter (see your computer manual for connector locations).

Host adapter configuration is shown below.

Note: Serial ATA connectors are keyed to ensure correct orientation.




2. Attach the interface and power cables to the drive.
3. Secure the drive using four 6-32 UNC mounting screws in either the side-mounting or bottom-mounting holes. Insert the screws no more than 0.20 inches (5.08 mm) into the bottom-mounting holes and no more than 0.14 inches (3.55 mm) into the side-mounting holes.

Note: Do not over-tighten the screws or use metric screws. This may damage the drive.

## INSTALLING RANDOM ACCESS MEMORY (RAM)

Most motherboards only support one type of memory, so check your motherboard to see what type of RAM it can handle. The manufacturer's name and model number are typically printed on the motherboard manual and packaging. If you don't have that handy, you can look at the board itself, as it's usually printed there, too.

When you know what your board is called, navigate to the manufacturer's website and locate your motherboard using that model number. Verify the memory type, speed, and total amount your motherboard can handle.

1. Disconnect the power cable from your system and, if needed, unplug other back-panel cables so that you can safely lay your system on its side.
2. Remove the side panel (usually on the left) to gain full access to the interior. The RAM slots are long and normally reside to the right of the processor and its chunky cooler. These slots typically number between two and eight and include tabs (or wings) on each end, which lock the sticks into place. Press these tabs down towards the motherboard to eject and remove the old RAM.
3. Look in your motherboard's manual to determine the correct slots where your new memory should reside. Some motherboards prefer the second and fourth slots if you're only using one or two sticks. Others prefer the first and third.

Before installing the RAM, make sure the wings at either end of the slot are indeed pushed back, so they're tilted away from the slot. 'Note that you can only install RAM one specific way. Look at the side of the RAM stick with metal contacts and you'll see a notch that's not centered. You'll need to line that notch up with the notch — also not centered — inside the motherboard's memory slot. If they're reversed, the stick will not click in place.

When you're sure the RAM stick is lined up properly, grip the top with your fingers and push down firmly and evenly on both ends until it clicks into place. As it does, the wings clamp in and hold the memory securely.

If the stick doesn't click into place relatively easily, make sure you have the stick oriented correctly. Forcing RAM that's not lined up correctly can damage your motherboard. If in doubt, double-check. A flashlight can really help you see as well.
4. Once all sticks click into their slots, confirm that the wing clips are locked in to hold the sticks firmly in place. If everything passes inspection, close the PC. Next, plug all cables back in and boot the system.

## INSTALLING POWER SUPPLY UNIT (PSU)

The power supply is what facilitates the flow of power from an electrical source to the other components of the computer. Keep in mind that if your computer came pre-assembled, you don't need to install the power supply, though you may eventually need to replace it.

1. **Find a power supply for your computer.** The power supply that you buy depends on the computer's motherboard and housing size, meaning that you'll need to research your motherboard model to see which power supplies will fit. You can usually find power supplies in tech departments or stores, as well as in online shops like Amazon and eBay.

• Make sure that you buy a power supply that is optimized for your region. Power supplies for European markets use different voltage settings than the ones used in North American markets.

2. **Assemble your tools.** You'll need at least one screwdriver (typically a Phillips head) to open the CPU housing, which is usually the right-hand side of the CPU box when looking at the back of the box. You may need a different screwdriver for your power supply as well—look at the screws that came with the power supply to determine whether or not this is the case.

3. **Ground yourself.** This will help prevent you from accidentally damaging the internal components of your computer with static electricity.

4. **Open the computer case.** You should be looking at the computer's internals at this point.

5. Lay the computer case on its side, with the exposed side facing up.

6. **Set the power supply's voltage switch.** If there's a voltage switch on the power supply, switch it to the 110v or 115v setting. This will ensure that your power supply provides ample power without damaging the components to which it's connected.

• Not all power supplies have voltage switches, and those that do normally have the switch set to the standard of the region for which they were purchased.

7. **Find the power supply's intended location.** Power supply units (PSUs) typically sit at the top of the case; this is why the computer's power cable usually plugs into the top-back section of the case.

• Refer to your computer's instruction manual for the proper placement of the power supply unit, or look for a rectangular cut-out on the back of the case.

• If you're removing an old power supply, look for a power plug on the back of the case to find the power supply.

8. **Insert the power supply.** The power supply should have a distinct "back" with plugs and a fan, as well as a "bottom" with a fan on it. The "back" should face the back of the case, while the "bottom" should face the internal part of the case.

9. **Screw the power supply into place.** With the "back" of the power supply unit pressed against the back of the case, insert the included screws to lock the power supply into place.
10. **Attach the power supply to the motherboard.** Find the main power cable on the power supply (usually the one with the largest plug) and attach it to the long, rectangular port on the motherboard, then attach the secondary power cable to the motherboard.
- Depending on your power supply and motherboard, you may not have a secondary power cable.
- The plug used to attach the power supply to the motherboard is usually a 20- or 24-pin connector.

11. **Connect the power supply to other computer components.** Using the smaller cables, connect the power supply to your computer's hard drive, CD drive, and graphics card. If you have other components in your case (e.g., a lighting system), you may need to plug these in as well.
12. **Close and plug back in your PC.** Place the cover back on the PC, then stand it up and plug it back into the wall and your monitor.
13. **Turn on your computer.** If everything is connected and powered properly, the fan on the power supply should turn on and your computer will boot like usual. If you hear a beep and nothing happens, then something inside is not connected correctly, or the power supply is not providing enough power to your components.

## INSTALLING EXPANSION CARDS

### Check the expansion card power requirements

Now everything that you plug into your motherboard requires power. The drives, processor, and even the memory modules require a certain amount of energy. Check the specifications for the expansion card you want to install and determine how much power it requires.

The next thing you need to check is how many watts your power supply delivers. The power output is crucial. Typically there is a power output table on the side of the power supply inside of your desktop computer that tells you what the maximum DC output is.
Installing an expansion card is relatively easy. You may or may not require tools, as some computer cases are tool-free. At the most, you might need a Philips head screwdriver to get the side of the case open and to secure the expansion card to the computer case.

1. Disconnect the power cord from the computer. After disconnecting the power cord, place your hand on any metal part of the case to discharge any residual energy. Never work on a system that is plugged in and energized.
2. Open the computer case. This step usually requires taking the side or top panel off. Look at the back of the computer case and determine what side the motherboard connections are on. The side panel you need to remove is on the opposite side of these.
3. Remove the expansion slot cover panel on the backside of the case. Some expansion slot panels have a screw holding them in-place; some are stamped right into the metal back of the case. If it is a stamped panel, you will have to work it back and forth to break it off, so be careful not to cut your fingers.
4. Install the expansion card. Most cards will slip right in, but make sure the notched edge of the mounting bracket slides down into the slot in the case. Sometimes you have to give it a little push from the outside of the case to get it in. Once it is in place, secure it down.
5. Replace the side of the case, connect the power cord, and power your computer up.

## E What is more?

**Learning Task 4: STEP-BY-STEP**
Fill in the blanks with the correct word or phrase to complete the steps in installing peripheral devices. Write your answer in space provided.

**INSTALL POWER SUPPLY UNIT (PSU)**

1. Find a_____for your computer.
2. Assemble your_____.
3. _____yourself.
4. Open the computer_____.
5. _____the computer case on its side, with the exposed side facing up.
6. Set the power supply's voltage_____.
7. Find the power supply's intended_____.
8. Insert the_____.
9. _____the power supply into place.
10. Attach the power supply to the_____.
11. _____the power supply to other computer components.
12. Close and_____back in your PC.
13. Turn_____your computer.

**INSTALLING HARD DRIVE**
1. Attach one end of the drive interface_____to the Serial ATA interface connector on your computer's motherboard or Serial ATA host adapter.
2. Attach the interface and power cables to the_____.
3. Secure the drive using four 6-32 UNC mounting_____in either the side-mounting or bottom-mounting holes.

**INSTALLING RANDOM ACCESS MEMORY (RAM)**
1. Disconnect the power cable from your system and, if needed, _____other back-panel cables so that you can safely lay your system on its side.
2. Remove the side panel to gain full access to the interior. These slots typically number between two and eight and include tabs (or wings) on each end, which lock the sticks into place. Press these tabs_____towards the motherboard to eject and remove the old RAM.

3. _____in your motherboard's manual to determine the correct slots where your new memory should reside. Some motherboards prefer the second and fourth slots if you're only using one or two sticks.
4. Once all sticks click into their slots, confirm that the wing clips are locked in to hold the sticks firmly in place. If everything passes inspection, close the PC. Next, plug all cables back in and _____the system.

**INSTALLING EXPANSION CARDS**

1. Disconnect the power cord from the computer. After disconnecting the power cord, place your hand on any metal part of the case to_____any residual energy.
2. _____the computer case. This step usually requires taking the side or top panel off.
3. Remove the expansion slot_____on the backside of the case.
4. Install the_____. Most cards will slip right in, but make sure the notched edge of the mounting bracket slides down into the slot in the case. Sometimes you have to give it a little push from the outside of the case to get it in. Once it is in place, secure it down.
5. Replace the side of the case, connect the_____, and power your computer up.

**INSTALL NETWORK INTERFACE CARD (NIC)**

1. Assemble your_____.
2. Shut down Windows, turn_____the computer and unplug it
3. Remove the_____from your computer.
4. _____ an unused expansion slot inside the computer.
5. _____the metal slot protector from the back of the computer's chassis.
6. If a small retaining screw holds the slot protector in place, remove the_____and keep it in a safe place because you will need it later. Then pull the slot protector out and discard.
7. Insert the_____into the slot.
8. Line up the connectors on the bottom of the card with the connectors in the expansion slot and then_____the card straight down.
9. _____the network interface card.
10. Put the computer's_____back together.

11. Watch out for the loose cables inside the computer; you don't want to pinch them with the case as you slide it back on. Secure the case with the_____that you removed earlier.
12. _____in the computer and turn it back on.

**Learning Task 5: Incident Report**
Fill up the incident report forms based on the given scenario. Apply the necessary procedures needed for the peripheral device.

A. It was two o'clock in the afternoon, your class are in a computer laboratory and suddenly a computer unit does not turn on.

**COMPUTER INCIDENT REPORT FORM # _____**

Student's Name : _____
Grade & Section: _____

| | | |
|---|---|---|
| Date of Incident: | | Time: |
| Description of Incident: | | |
| Action Taken: | | |
| REMARKS: | | |

Student's Signature: _____
Instructor's Signature: _____

B. The class started at nine o' clock. Your teacher started the discussion and he/she asked you to fix the computer which is very slow. The system unit is upgradable.

**COMPUTER INCIDENT REPORT FORM # _____**

Student's Name : _____
Grade & Section: _____

| | | |
|---|---|---|
| Date of Incident: | | Time: |
| Description of Incident: | | |
| Action Taken: | | |
| REMARKS: | | |

Student's Signature: _____
Instructor's Signature: _____

# A What I have learned?

**Learning Task 6: Reflection**

In five (5) sentences, why is it important to know the proper installation and configuration of peripheral devices? Explain.

# References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# I Week 2
# What I need to know?

In this module you are able to understand more about proper procedures in installing peripherals/devices driver software in the computer system. Device drivers are the software segments that provides an interface between the operating system and the specific hardware devices such as terminals, disks, tape drives, video cards and network media. The device driver brings the device into and out of service, sets hardware parameters in the device, transmits data from the kernel to the device, receives data from the device and passes it back to the kernel, and handles device errors.

Upon completion of the module, you should be able to:

a. identify the different peripherals/devices driver software that can be installed in a computer system based from system requirements
b. understand the concept of installing peripherals/devices driver software in accordance with established installation procedures
c. apply proper step by step procedures in installing peripherals/devices driver software

Your target output for each lesson for this module are as follows:

| **LESSON/ TOPIC** | **Most Essential Learning Competencies** | **Learning Task/ Application/Assessment** | **Duration** |
|---|---|---|---|
| Installation of Driver Software | LO3.5 Install OS and drivers updates/ patches in accordance with manufacturer's recommendations | Learning Task 1: Self-Assessment<br><br>Learning Task 2: Pretest<br><br>Learning Task 3: Familiarize yourself | 5 days |

| | | | |
|---|---|---|---|
| | and requirements | Learning Task 4: Sequencing Events<br><br>Learning Task 5: Let's Group Them<br><br>Learning Task 6: Use of Media<br><br>Learning Task 7: Reflection | |

**Learning Task 1: Self-Assessment**

Hi! You are about to start this module. Before anythingelse, take this SELF-ASSESSMENT survey questionnaire.

| **Installation of Driver Software** | | |
|---|---|---|
| Can I…… | **YES** | **NO** |
| Determine requirements of task in accordance with the required output | | |
| Select appropriate driver software according to task assigned and required outcome | | |
| Plan a task to ensure that OHS guidelines and procedures are followed during driver installation | | |
| Follow client-specific guidelines and procedures | | |

Well done! How many of those in the survey are you knowledgeable of? Do not worry because you are able to learn more upon completion of this module.

**Learning Task 2: Pretest.** Write the letter of the correct answer in your answer sheet.

1. It refers to any of various devices (including sensors) used to enter information and instructions into a computer for storage or processing and to deliver the processed data.
   A. Modem C. CPU
   B. Network Card D. Printer

2. Which of the following devices does not need a driver upon installation?
   A. Modem C. CPU
   B. Network Card D. Printer

3. What is the last thing you should do upon completion of installation of device driver?
   A. Find the device that need to install a driver
   B. Browse my computer for driver software
   C. Reboot the computer after the driver is installed
   D. Update Driver Software

4. What is missing driver is present in your system if it has indefinite display in your monitor?
   A. Card reader C. Network Card
   B. Scanner D. Video Card

5. If you have downloaded the device driver from the website, what is the first thing you should consider?
   A. determine how the drivers are packaged
   B. copy the drivers from the CD to a USB flash drive
   C. install the driver using an executable
   D. uncompressed the file

# 1 What is new?

Before we start in the installation procedures, let us know first more about device drivers.

**Device driver**

More commonly known as a driver, a device driver or hardware driver is a group of files that enable one or more hardware devices to communicate with the computer's operating system. Without drivers, the computer would not be able to send and receive data correctly to hardware devices, such as a printer.

**What devices need drivers?**

Hardware devices that are unknown by the operating system or that have features that are unknown by the operating system all require drivers. Below is a list of hardware devices and peripherals that require drivers.

| | |
|---|---|
| Card reader | Printer |
| Controller | Scanner |
| Modem | Sound card |
| Motherboard chipset | Tape drive |
| Network card | USB devices |
| | Video card |

**What devices may not need drivers?**

Today's operating systems have a lot of generic drivers that allow hardware to work at a basic level without needing drivers or software. However, if that device has features unknown to the operating system, it will not work without drivers. For example, you could plug any keyboard into a computer and expect it to work. However, if that keyboard has any special keys or features, they will not work until the drivers are installed.

| | | |
|---|---|---|
| CPU | Joystick | RAM |
| Disc drive | Keyboard | Speakers |
| Fan | Mouse | Thumb drive |
| Hard drive | Monitor | UPS |
| Heat sink | Power supply | |

**What happens if a driver is not installed?**

If the appropriate driver is not installed, the device may not function properly, if at all. With some devices, the device may work, but all of its features may not work. For example, a computer mouse usually works without drivers, but if it has more buttons than the traditional mouse, those extra buttons will not work until the drivers are installed.

For Microsoft Windows users, missing drivers may cause a driver conflict or an error that is shown in the Device Manager. If problems or conflicts are encountered with drivers, the computer manufacturer or hardware manufacturer releases a driver update to fix the problems. If updated drivers are available, those drivers need to be installed to replace the existing driver code.

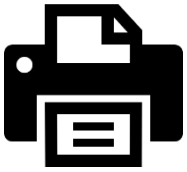
**Can a driver make my computer do more?**

Installing a driver only makes the hardware installed in the computer function properly. If the correct driver is not installed, installing the latest driver for the hardware can take full advantage of the device. However, you cannot install a driver for hardware not installed in the computer and expect it to make your computer faster or more capable. In other words, installing video card drivers for a video card that's not installed in the computer does not give your computer all the capabilities of that video card. In this example, you'd need the video card hardware and the video card drivers to be installed.

**Learning Task 3: Familiarize yourself**

Identify the following icon given. Write it in a separate answer sheet.

1. _____

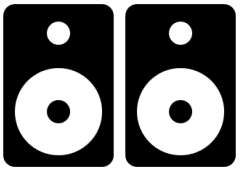


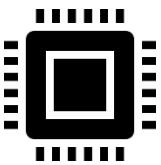
2. _____

5. _____

3._____

4. _____





# D What is it?

**Install and update a computer driver**

How a driver is saved and packaged determines how it is installed. Below is information about each of the methods developers use to distribute their drivers and install them in Microsoft Windows. Additionally, there are some general insights to help prevent frustrations during the process.

**Drivers from a CD or DVD**

Almost all computer and hardware manufacturers include a group of drivers for different hardware devices and often for each of the supported versions of Windows. For example, the driver CD you receive with your printer likely contains the drivers for many different printers and may not have the printer you purchased. When installing the drivers, make sure you are install the drivers for your printer and not another printer model. Also, make sure you are installing it for the version of Windows you are running on your computer.
Below is an example of how a file structure may look on your disc.

CD Example:

PrinterA100
Win9x
Win2k
WinXP

PrinterB100
Win9x
Win2k
WinXP

PrinterA200
Win9x
Win2k
WinXP

For example, if you had a PrinterA200 and were using Windows XP, you would find your drivers in the PrinterA200\WinXP folder. Once the location of the drivers is found, you must determine how the drivers are packaged. If the folder contains executable files or a setup file, you can install the driver using an executable. If the directory contains .inf files, you can install the driver using an inf or use the "have disk" option during the install.

**Remember:**
If you have a CD with drivers, but the computer has no functioning disc drive, you can also download the drivers. Or, if you have access to another computer, you can copy the drivers from the CD to a USB flash drive.

**Installing drivers from a USB drive or floppy**

After the drivers are copied to a USB flash drive, floppy, or another drive, they can also be installed from that drive. Once the drive is connected to the computer, open Windows Explorer and then the drive letter for the computer drive. For example, if you have a USB drive that is assigned the E: drive when connected, you would open the E: drive.
Once the drivers are found on the drive, you must determine how the drivers are packaged. If the directory contains executable files or a setup file, you can install the driver using an executable. If the directory contains .inf files, you can install the driver using an inf or use the "have disk" option during the install. If the drivers are compressed into a .zip file, you need to uncompressed the file.

**Downloading and installing a driver**

After the drivers are downloaded, you must determine how the drivers are packaged. If the directory contains executable files or a setup file, you can install the driver using an executable. If the directory contains .inf files, you can install the driver using an inf or use the "have disk" option during the install. If the drivers are compressed into a .zip file, you need to uncompressed the file.

**Installing a driver from an executable**

Today, many computer and hardware manufacturers are pre-packaging their drivers into executable files or have the drivers installed through the setup file. Double-clicking the executable or setup file should install the drivers to the computer for you.

Finally, if you're successful with installing your drivers and the computer asks to reboot the computer, make sure to reboot the computer after the driver is installed.

**Using the "have disk" option to install drivers**

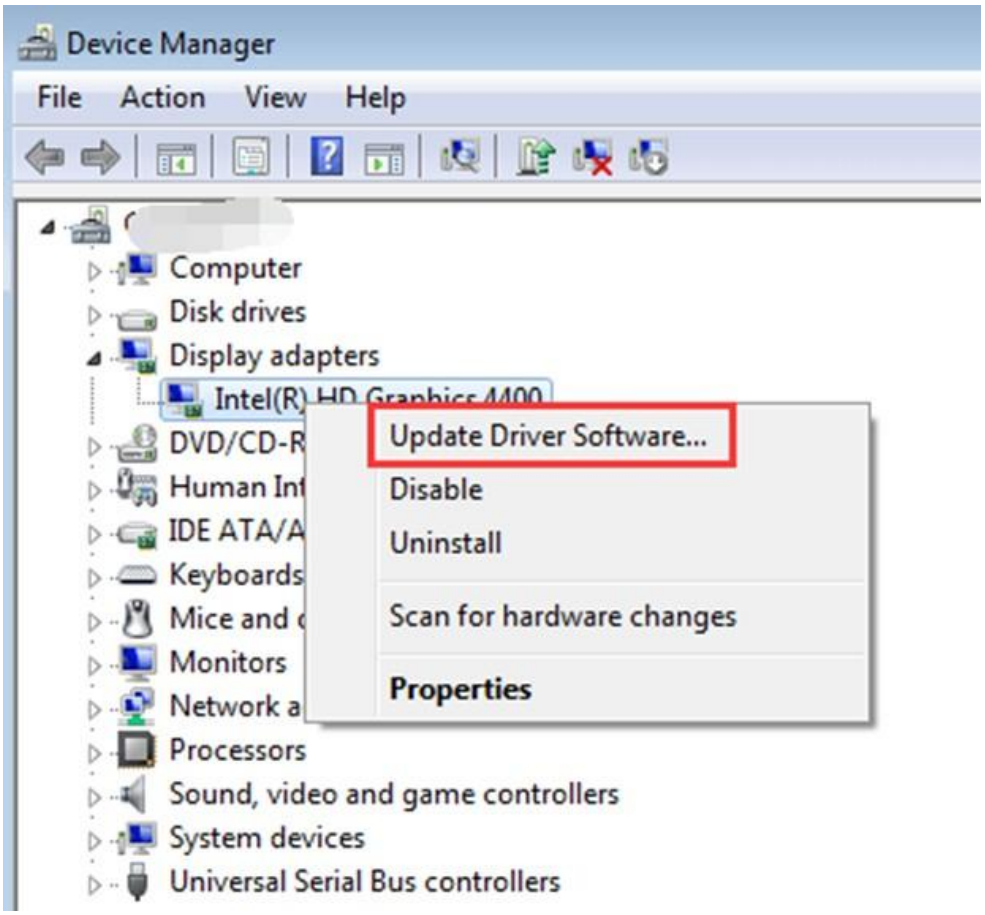
A computer or hardware manufacturer may place the drivers on a CD, diskette, or folder on.

**HOW TO INSTALL THE DRIVER**

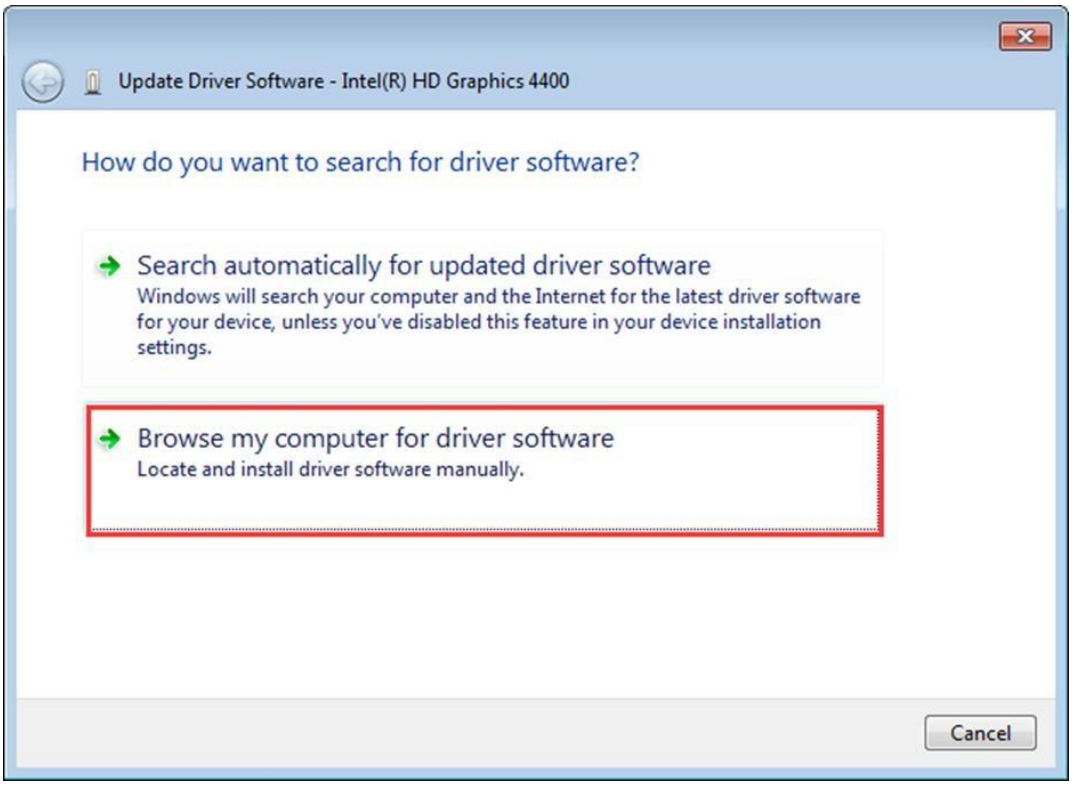
1. Go to **Device Manager**.

2. Find the device that need to install a driver. (Here let's take video card for example.)

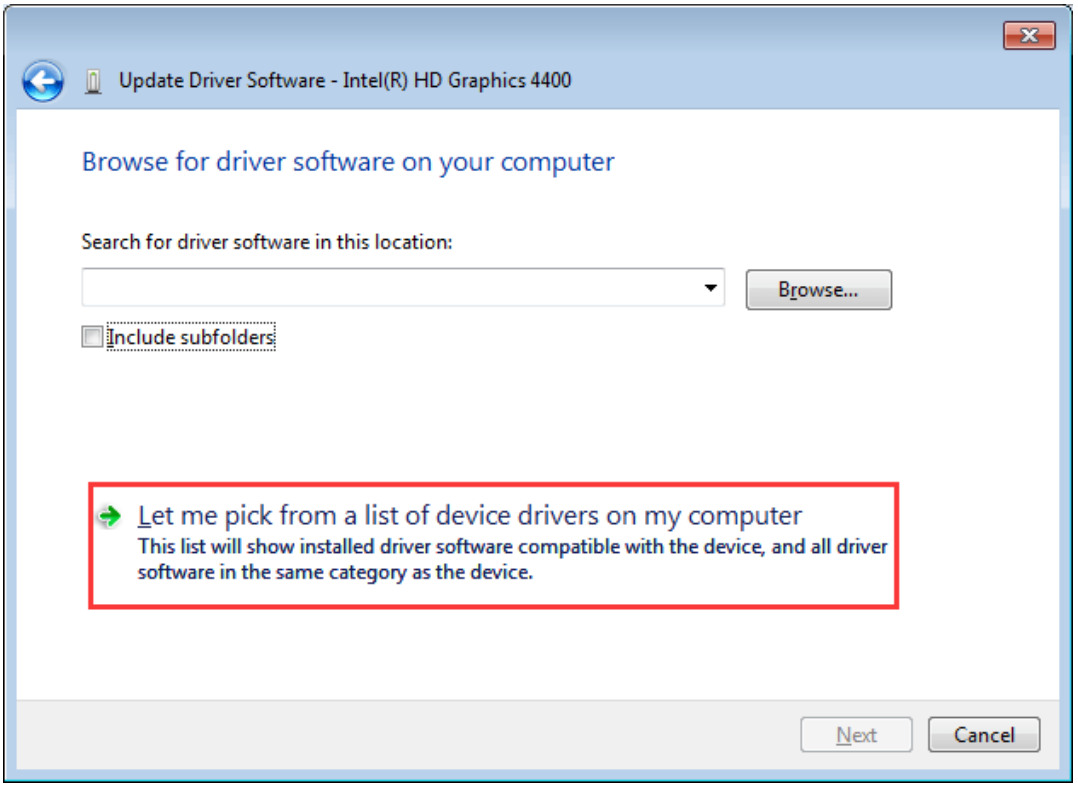
**3.** Right-click on the device and select **Update Driver Software**



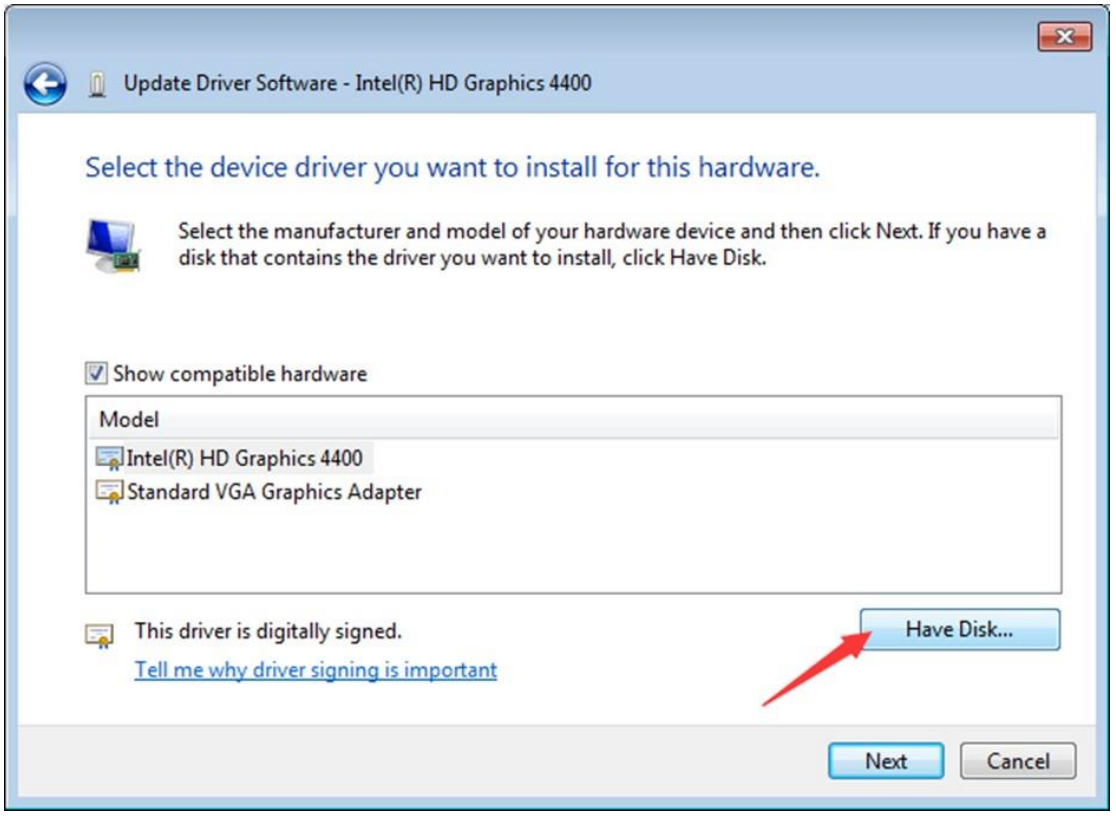
4. Select **Browse** my computer for driver software



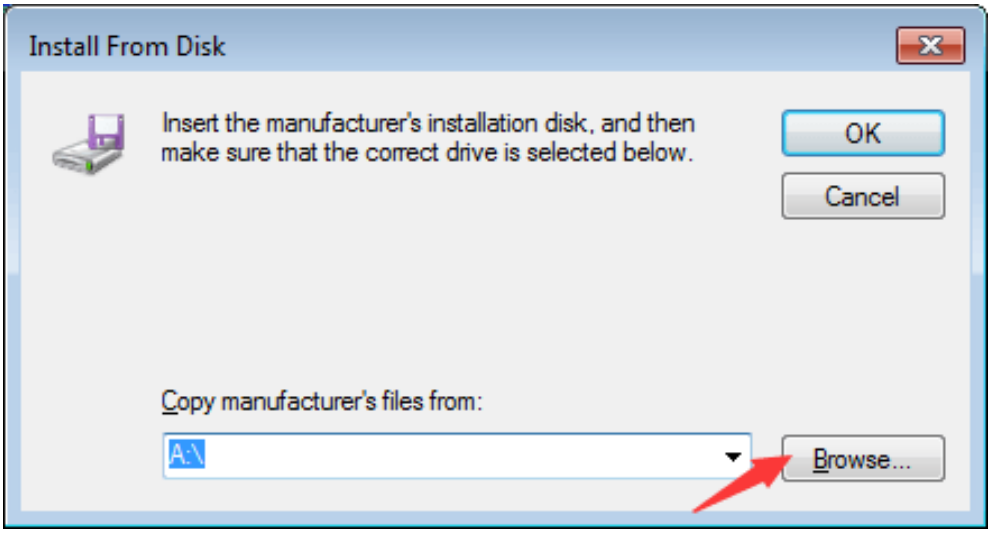

5. Select **Let me pick from a list of device drivers on my computer**.




6. Click **Have Disk**... button.




7. Click Browse… button. Navigate to the folder where you saved the downloaded driver file and browse the .inf driver file.




8. Click OK button then Next button to finish the installation. You might be asked for an admin password or to confirm your choice.

9. Once drivers are installed, reboot the computer.

**Upgrading drivers for a pre-existing device**

1. Open the Windows Device Manager.
2. In the Device Manager, locate the device you want to update.
3. Right-click the device and click Properties.
4. In the Properties window, click the Driver tab.
5. Click the Update Driver button.
6. In the Hardware Update Wizard, point Windows to the location of the updated driver files on your hard drive.
7. Once drivers are installed, reboot the computer.

# E What is more?

**Learning Task 4: Sequencing Events**
Arrange the following steps in proper order. Use numbers and write it in a separate answer sheet.

**Install a new device (1-9)**

_____1. Click Have Disk… button.
_____2. Go to Device Manager.
_____3. Select Let me pick from a list of device drivers on my computer.
_____4. Find the device that need to install a driver. (Here let's take video card for example.)
_____5. Once drivers are installed, reboot the computer.
_____6. Click OK button then Next button to finish the installation. You might be asked for an admin password or to confirm your choice.
_____7. Right-click on the device and select Update Driver Software
_____8. Select Browse my computer for driver software.
_____9. Click Browse… button. Navigate to the folder where you saved the downloaded driver file and browse the .inf driver file.

**Upgrading drivers for a pre-existing device (1-7)**

_____1. In the Properties window, click the Driver tab.
_____2. Once drivers are installed, reboot the computer.
_____3. In the Hardware Update Wizard, point Windows to the location of the updated driver files on your hard drive.
_____4. Click the Update Driver button.
_____5. In the Device Manager, locate the device you want to update.
_____6. Right-click the device and click Properties.
_____7. Open the Windows Device Manager.

**Learning Task 5: Let's Group Them**

Identify the following device is if needed driver or not during installation. Choose from the given terms inside the box.

| | | | | |
|---|---|---|---|---|
| CARD READER | CPU | CONTROLLER | FAN | MODEM |
| HARD DRIVE | NETWORK CARD | JOYSTICK | PRINTER | SCANNER |
| KEYBOARD | MOUSE | MONITOR | SOUND CARD | RAM |
| SPEAKERS | VIDEO CARD | UPS | TAPE DRIVE | USB DEVICES |

| DEVICES WITH DRIVER INSTALLATION | DEVICES W/O DRIVER INSTALLATION |
|---|---|
| 1. | 11. |
| 2. | 12. |
| 3. | 13. |
| 4. | 14. |
| 5. | 15. |
| 6. | 16. |
| 7. | 17. |
| 8. | 18. |
| 9. | 19. |
| 10. | 20. |

**Learning Task 6: Use of Media**

Enumerate at least five (5) media that can be used in installing device driver.

1. _____
2. _____
3. _____

# A What I have learned?

**Learning Task 7: Reflection**

In five (5) sentences, explain why is the important to install device drivers in a computer system? Write your answer inside the box.

**Articles**

Huculack, Michael (2020, Feb 23), “How to properly update device drivers on Windows 10” Retrieved from https://www.windowscentral.com/how-properly-update-device-drivers-windows-10

Mo,Camillo (n.d), “How to Install Drivers” Retrieved from https://www.drivereasy.com/knowledge/how-to-install-drivers/

Computer Hope (2020, Aug 2), “How to install and update a computer driver” Retrieved from https://www.computerhope.com/issues/ch000834.htm

Driver Scape (2019) “What is a Windows Driver?” Retrieved from https://www.driverscape.com/articles/how-to-install-a-driver-manually

Da Costa, Andre (2016, Jan 21), “How to: Install and Update Hardware Drivers in Windows 10” Retrieved from https://answers.microsoft.com/en-us/windows/forum/windows_10-hardware-winpc/how-to-install-and-update-hardware-drivers-in/a97bbbd1-9973-4d66-9a5b-291300006293

Source Daddy (2020), “Installing Devices and Drivers” Retreived from https://sourcedaddy.com/windows-7/installing-devices-and-drivers.html

**Presentation**

Professor Messer,(2017, Nov 6) “Driver Manipulation - CompTIA Security+ SY0-501 - 1.2” Retrieved from https://www.youtube.com/watch?v=yQb2A-KoA6Y&ab_channel=ProfessorMesser

# I Week 3
# What I need to know?

This module was designed and written with you in mind. It is here to help you understand Computer Systems Servicing. This module tackles basic concepts of installing application software.

In this module, topics will be introduced progressively lesson by lesson for easy understanding. After carefully answering the diagnostic assessment, reading all the lessons, answering all the guide questions, masterfully performing all the activities, showing evidences of learning and finally answering the summative test, then you will have a considerable knowledge and skills in installing computer systems and networks essential to be successful in computer systems servicing as one of the career option in ICT.

Reminder! Just follow the instructions given in this module. Now let us start exploring new things in this module.

Upon completion of the module, you should be able to:

a. identify the different types of application software
b. understand the concept of installing application software in accordance with established installation procedures
c. apply proper step by step procedures in installing application software

Your target output for each lesson for this module are as follows:

| **LESSON/ TOPIC** | **Most Essential Learning Competencies** | **Learning Task/ Application/Assessment** | **Duration** |
|---|---|---|---|
| Installation of applications software with different variations | LO 4.1 Install Application Software based on software installation guides, end-user requirements and software license | Learning Task 1: Self-Assessment<br><br>Learning Task 2: Pretest<br><br>Learning Task 3: Identifying Application Software | 5 days |

| | | | |
|---|---|---|---|
| | agreement | Learning Task 4: Crossword Puzzle<br><br>Learning Task 5: Software Classification<br><br>Learning Task 6: Post Test<br><br>Learning Task 7: Reflection | |

**Learning Task 1: Self-Assessment**

Hi! You are about to start this module. Before anything else, take this SELF-ASSESSMENT survey questionnaire.

| **Installation of Application Software** | | |
|---|---|---|
| Can I…….. | **YES** | **NO** |
| Determine requirements of task in accordance with the required output | | |
| Select appropriate procedures for installation according to task assigned and required outcome | | |
| Plan a task to ensure that OHS guidelines and procedures are followed during installation application software | | |
| Follow client-specific guidelines and procedures | | |

Well done! How many of those in the survey are you knowledgeable of? Do not worry because you are able to learn more upon completion of this module.

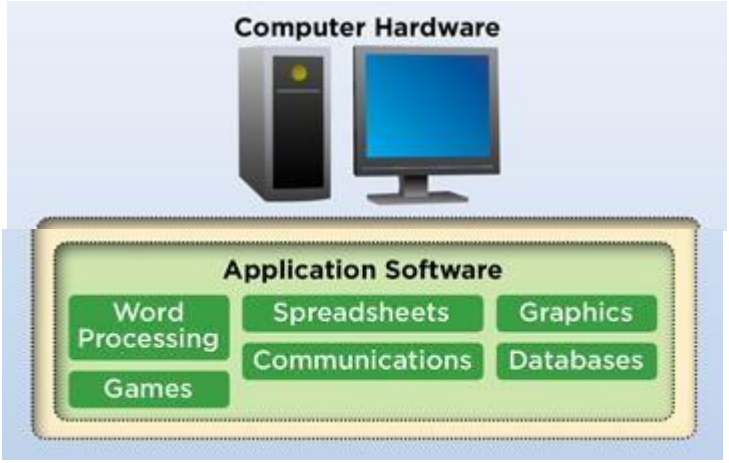
**Learning Task 2: Pretest.** Given the scrambled letters of different computer application, write down the correct answer on the space provided.

1. **LAIPPACONIT FTSOERAW** _____
2. **STPREEEADSH** _____
3. **GGOOEL HCRMEO** _____
4. **ITERNNTE** _____
5. **MCOISFTOR FFOCEI** _____

# I What is new?

**What is an Application Software?**

An application is any program, or group of programs, that is designed for the end user. Applications software include such things as database programs, word processors, Web browsers and spreadsheets.




Examples of application software include items like Microsoft Word, Microsoft Excel, or any of the web browsers used navigate the Internet or the actual software suites themselves, if they are intended for end users.

Another way to understand application software is to contrast it with other software. People often says that every program that you use on your computer is a piece of application software. On the other hand, operating system is a system software.

**Learning Task 3**

List down at least five application software that you are familiar. Write your answer on a separate sheet of paper.

| |
|---|
| 1. |
| 2. |
| 3. |
| 4. |
| 5. |

## D What is it?

**Types of Application Software**

**A. Utility software**

This could include firewall utilities and antivirus applications, as well as other utilities like zipping or unzipping utilities or disk defragmenting tools, or anything else that an end user can operate as a utility.

**B. Integrated software**

Software that does more than one thing, or includes different bundled applications. Here's where your traditional Microsoft Office suite belongs. Another example is a set of database applications bundled together to do different things to data assets.

**C. Specific application software**

This would be a single application developed for one defined purpose that is not a utility. It can separate all of those standalone applications into different categories like games, word processors, analytical engines, newsfeeds etc.

Even social media platforms have come to be similar to applications, especially on our mobile phone devices, where individual applications are given the nickname “apps.”

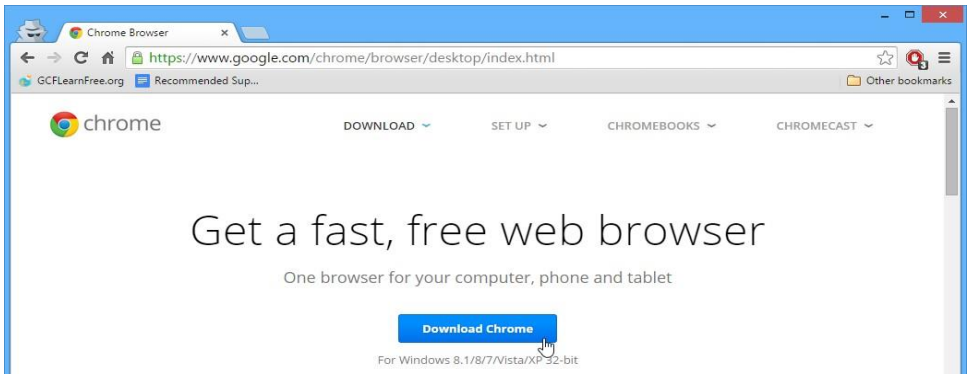
**Installing Application Software**

The installation process for software depends on your operating system and the program you are installing. Setup program or installer is a software that prepares an application software to run in the computer.

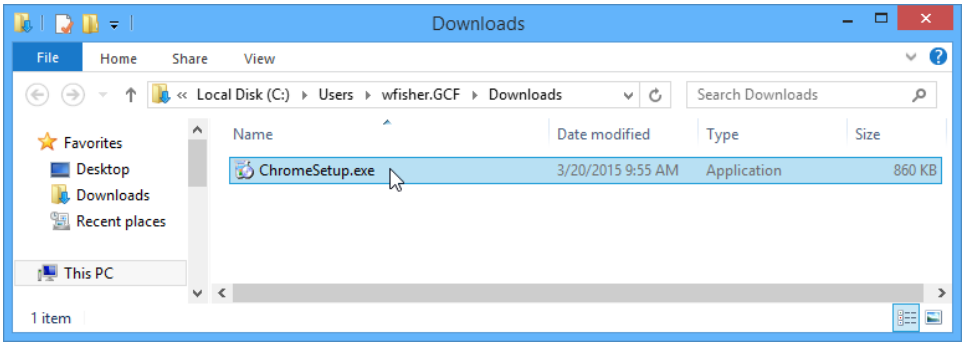
Previously, the most common way to get new software was to purchase a CD or DVD. Today, the most common way to get new software is to download it from the Internet. If you do not have internet you can copy the installer and install from a USB flash drive. Applications like Microsoft Office and Adobe Photoshop can now be purchased and downloaded right to your computer.

The steps below is an example on how to install a web browser using internet.

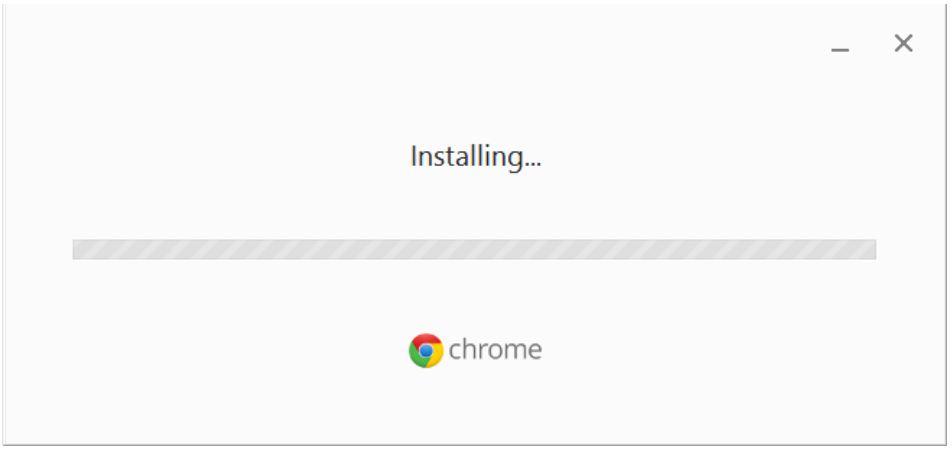
1. Locate and download an .exe file.



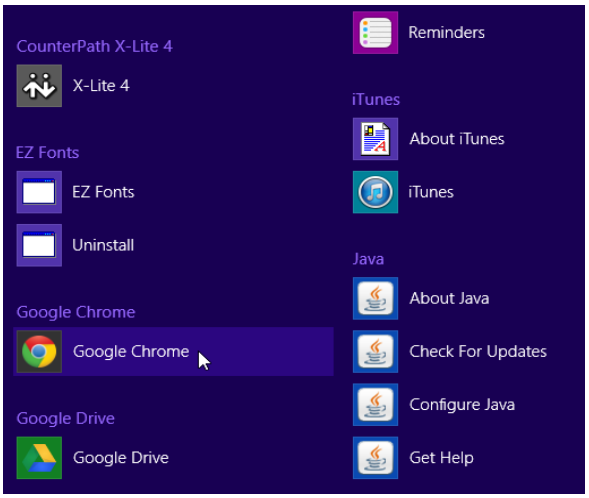

2. Locate and double-click the .exe file. (It will usually be in your Downloads folder.)




3. A dialog box will appear. Follow the instructions to install the software.



4. The software will be installed. You can now open the application from the Start menu (Windows 7) or the Start Screen (Windows 8).



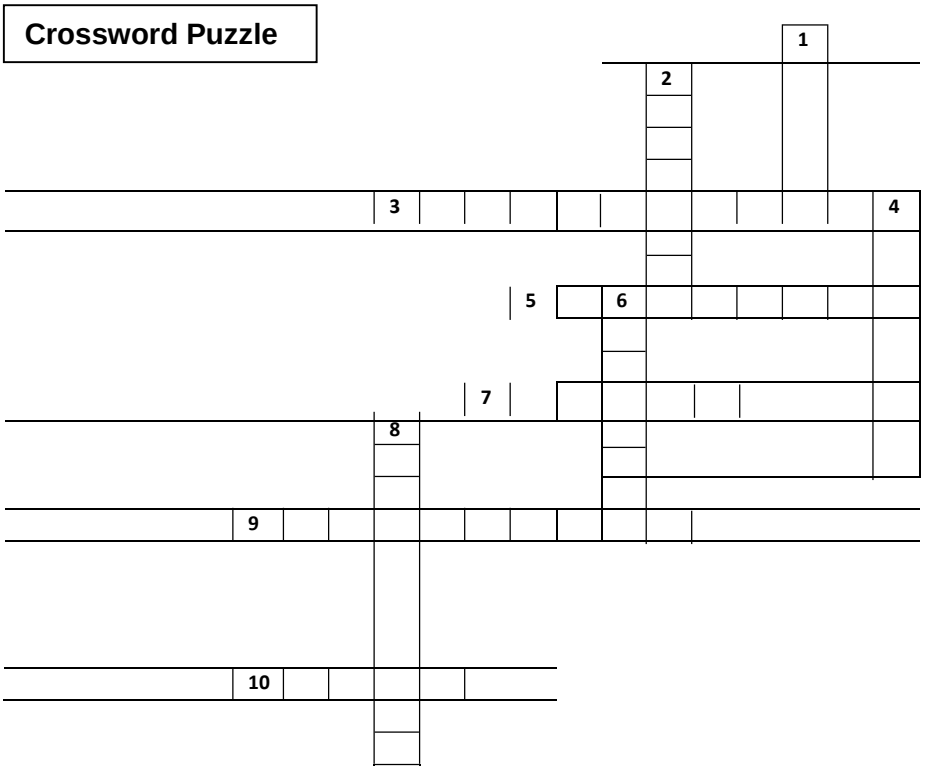

**How to install from a USB flash drive**

1. Open Windows Explorer or My Computer and find the USB drive that is often the last drive letter.
2. Once the drive is opened, find the setup or executable file, and double-click the file icon to start the setup process.

# E What is more?

## Learning Task 4

Fill the crossword puzzle with the words missing from the sentences below. Match the number of the sentence to the boxes placed across or down the grid.




Across
3 Without an internet connection you can still install software by saving it on your _____
5 It is a software that prepares an application software to run in the computer
7 Operating_____is not an example of application software
9 It is a set of database applications bundled together
10 Filmora is an example of_____editing software

Down
1 Google_____is an example of web browser application
2 Installers can be downloaded from _____
4 Word, Excel, PowerPoint and Publisher is a bundle ofapplication by _____
6 Games, Databases, Word processing is an example of application _____
8_____is an application software used for analysis and storage of data in tabular form

**Learning Task 5**

Classify the software below according to the correct function. Copy the guide given below on a separate sheet of paper.

*MS Word*
*Filmora*
*VLC Player*
*Notepad*
*Microsoft Excel*
*WPS Spreadsheet*
*Kinemaster*
*WordPad*
*PowerDirector*
*Windows Media Player*

| Word Processing Software | Spreadsheet Software | Video Editing Software | Multimedia Software |
|---|---|---|---|
| | | | |
| | | | |
| | | | |
| | | | |

# A What I have learned?

**Learning Task 6. Post Test**
Choose and encircled the letter of the correct answer.

1. It is any program, or group of programs, that is designed for the end user.
A. Application B. Games C. Files D. Documents

2. It is a software that prepares an application software to run in the computer.
A. Installer B. Antivirus C. Partition D. Documents

3. It is a set of database applications bundled together to do different things to data assets.
A. Specific B. Utility C. Integrated D. None of the above

4. It is a single application developed for one defined purpose that is not a utility.
A. Specific B. Utility C. Integrated D. None of the above

5. Which of the following can be used to get new application software?
A. CD or DVD B. Cinema C. Internet D. Both A & C

6. Application Software installer has this file extension
A. .png B. .jpeg C. .exe D. .ppt

7. The following is a set of database applications bundled together EXCEPT
A. Microsoft Word C. Microsoft Excel
B. Microsoft PowerPoint D. Acrobat Reader DC

8. The following is an applications software EXCEPT
A. Google Chrome C. Windows 7
B. Adobe Photoshop D. ShareIt

9. These are utilities like zipping or unzipping utilities or disk defragmenting tools.
A. Specific B. Utility C. Integrated D. None of the above

10. Which of the following is NOT an application software?
    A. Operating System
    B. Spreadsheets
    C. Word Processing
    D. Video Editing

**Learning Task 7**

Read the questions carefully and limit your answers to 3-4 sentences. Use separate sheet of paper. Erasures are not allowed.

| |
|---|
| **1.** What is the difference between the three types of application software? |
| Answer: |
| |
| |
| |
| **2.** In your opinion, what is the best way to install an application software? |
| Answer: |
| |
| |
| |

# Week 4
# I What I need to know?

In the previous lesson, you were introduced with all the necessary knowledge and skills on installation of computer devices and operating system. Now, after executing the correct procedures I am sure that installation is a very easy task for you. Those skills will be very essential for the next lesson.

This module was designed and written with you in mind. It is here to help you understand Computer Systems Servicing. This module tackles disk management software.

If you need any assistance, and questions don't hesitate to contact and ask your teacher, they'll be more than willing to lend you a hand. And most importantly, enjoy your learning journey.
Upon completion of the module, you should be able to:

a. identify the different disk management software
b. diagnose computer problems and determine which computer device is not functioning correctly.
c. apply proper step by step procedures in diagnosing computer by using different disk management software

Your target output for each lesson for this module are as follows:

| **LESSON/ TOPIC** | **Most Essential Learning Competencies** | **Learning Task/ Application/Assessment** | **Duration** |
|---|---|---|---|
| Disk Management software | LO4.2 Carry out variation to application software in accordance to customer/ client requirements | Learning Task 1: Self-Assessment<br><br>Learning Task 2: Pretest<br><br>Learning Task 3: Guess the Word | 5 days |

| | | | |
|---|---|---|---|
| | | Learning Task 4: Matching Type<br><br>Learning Task 5: Classify Disk Management<br><br>Learning Task 6: Post Test<br><br>Learning Task 7: Reflection | |

**Learning Task 1: Self-Assessment**

Hi! You are about to start this module. Before anything else, take this SELF-ASSESSMENT survey questionnaire.

| **Disk Management Software** | | |
|---|---|---|
| Can I…….. | **YES** | **NO** |
| Determine requirements of task in accordance with the required output | | |
| Select appropriate procedures for managing hard disks and the volumes or partitions according to task assigned and required outcome | | |
| Plan a task to ensure that OHS guidelines and procedures are followed during maintenance | | |
| Follow client-specific guidelines and procedures | | |

Well done! How many of those in the survey are you knowledgeable of? Do not worry because you are able to learn more upon completion of this module.

**Learning Task 2: Pretest.** Given the scrambled letters of different computer peripheral devices, write down the correct answer on the space provided.

1. **MDEEFNRATGRE** _____
2. **TCROONL LPENA** _____
3. **SCERIUY NAD MTEANANICEN** _____
4. **TIMIOZEP** _____
5. **NISATRADTIVEMI OLSTO** _____

# I What is new?

**Disk Management**

Disk Management is a system utility for managing hard disks and the volumes or partitions that they contain. Disk Management, which replaces the Disk Administrator utility used in Microsoft® Windows® NT 4.0, offers many features, including:

- Simplified Task and Intuitive User Interface - Disk Management is easy to use.
- Basic and Dynamic Disk Storage - Basic disks contain basic volumes, such as primary partitions and logical drives in extended partitions.
- Local and Remote Disk Management - you can manage any remote computer Operators group or Administrators group.
- Mounted Drives - You can use Disk Management to connect, or mount, a local drive at any empty folder on a local NTFS-formatted volume.
- Support for MBR and GPT disks - Disk Management offers support for master boot record (MBR) disks.
- Support for storage area networks (SANs) - For better interoperability in storage area network (SAN) environments.

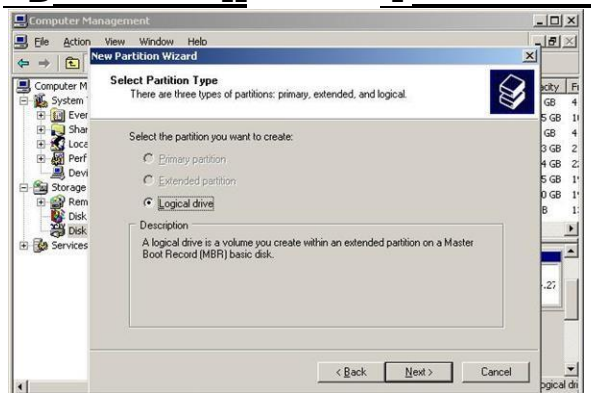
**Disk Management Software:**

A. Disk Partition
B. Disk Clean Up
C. Disk Check
D. Disk Defragmenter

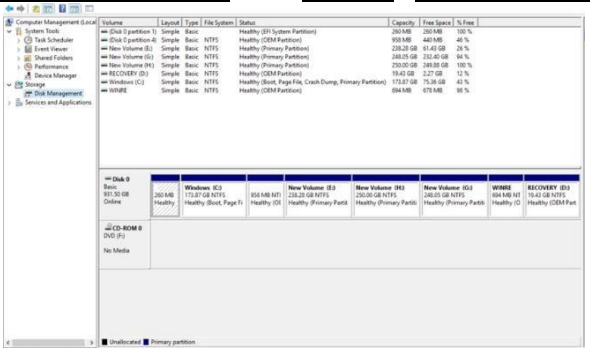
## *Learning Task 3*

Name the images below. Write your answers in a separate sheet of paper.

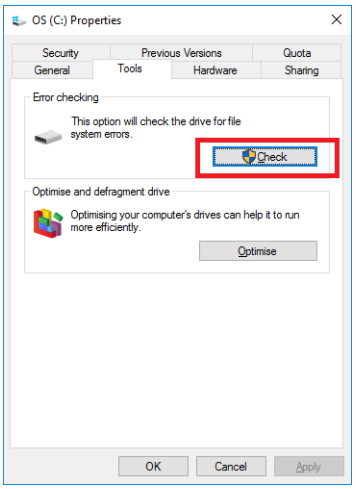
1. **D_____K_____P_____T________**




2. **____I_____K_____A___N_____G_____M_____**



3. **_____S___K_____H_____C_____**



# D What is it?

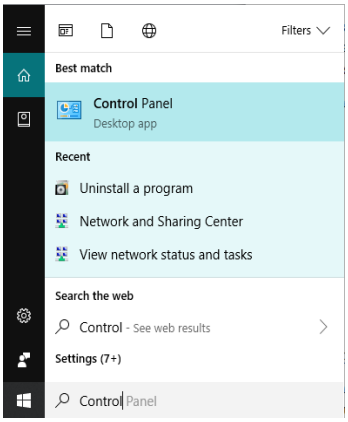
**Procedure on how to Open Disk Management in Windows 10**

Disk Management can be open either using Control Panel or Run Dialog Box. Make sure to create a restore point just in case something goes wrong.

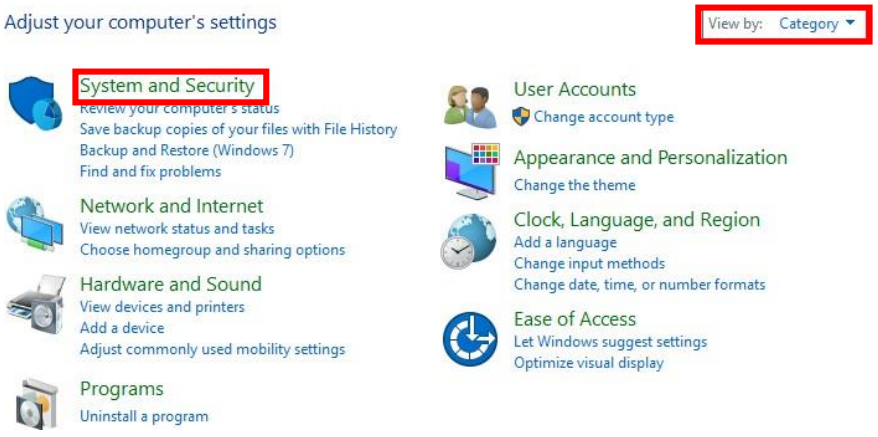
**Method 1:**

Open Disk Management using Control Panel follow below steps:

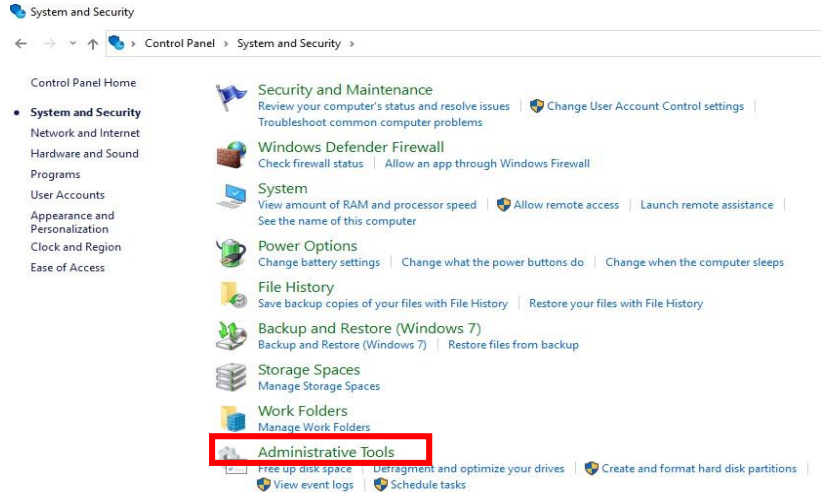
1. Open Control Panel by searching for it using the Search bar and hit the enter button on Keyboard.



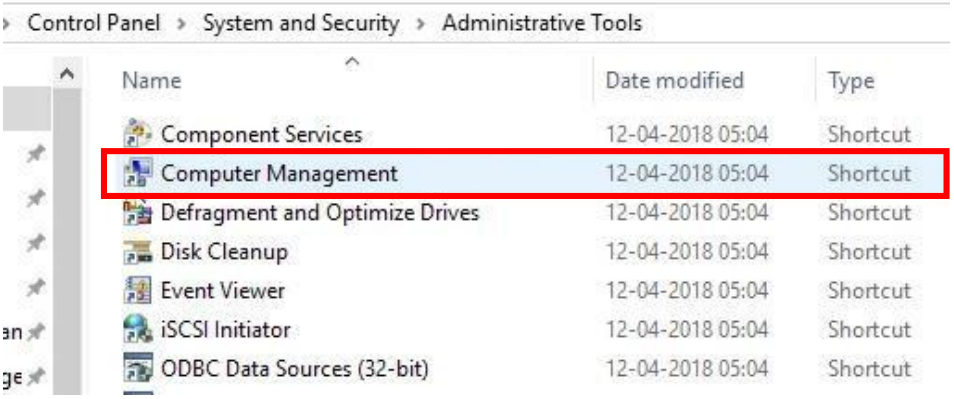

2. Click on **System and Security**.



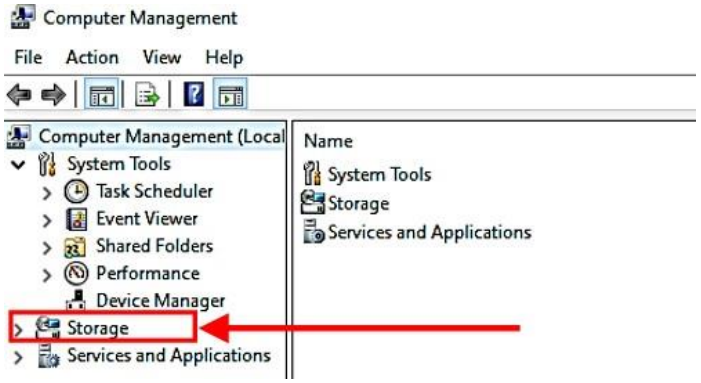
3. Under System and Security, click on **Administrative tools**.



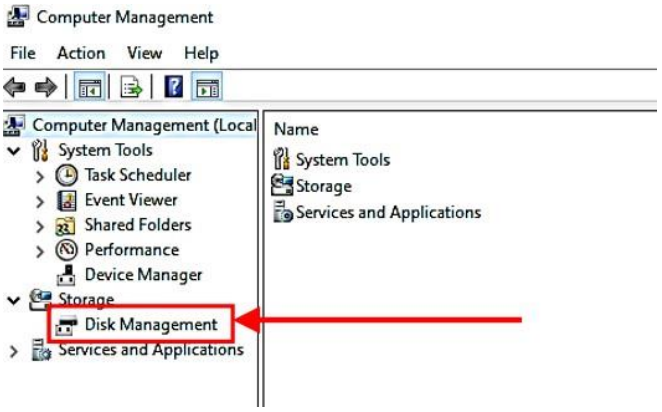

4. Inside Administrative tools, double-click on **Computer Management**.



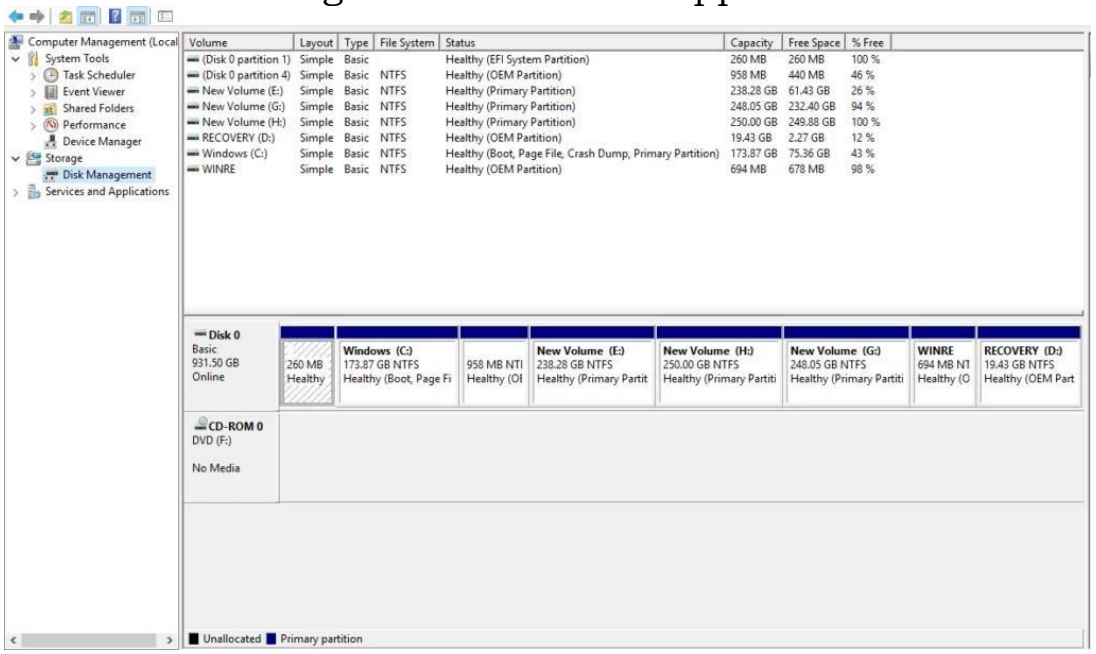

5. Inside Computer Management click on **Storage**.



6. Under Storage, click on **Disk Management** which is available under left window pane.



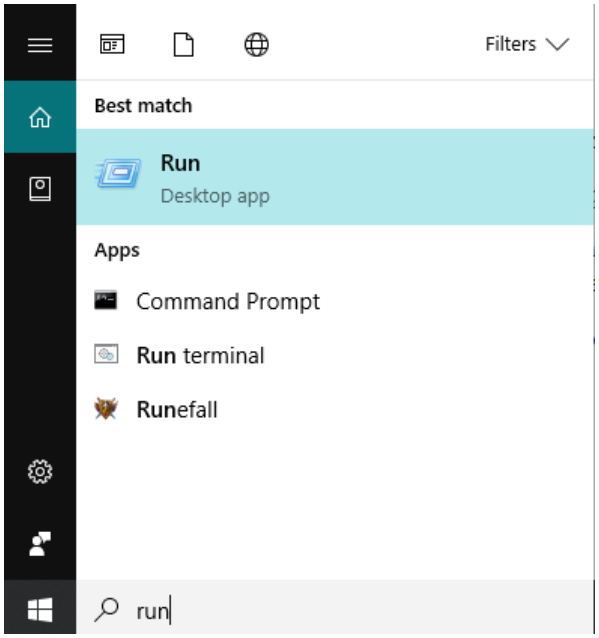

7. Below Disk Management screen will appear.



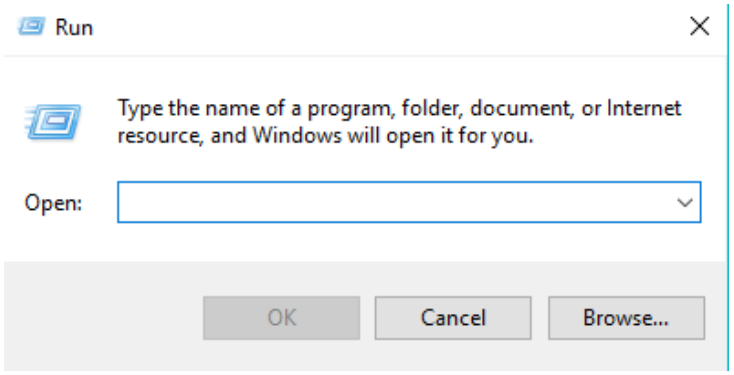

8. Now, your Disk Management is open. You can view or manage disk drives from here.

**Method 2:**
Open Disk Management using Run Dialog Box follow below steps:

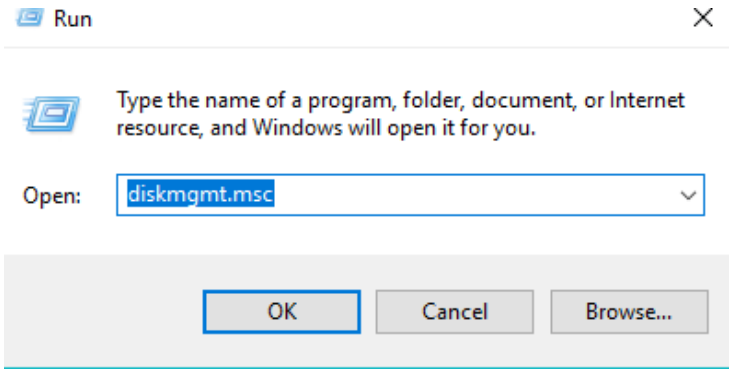
1. Search for Run (Desktop app) using the search bar and hit Enter on the keyboard.



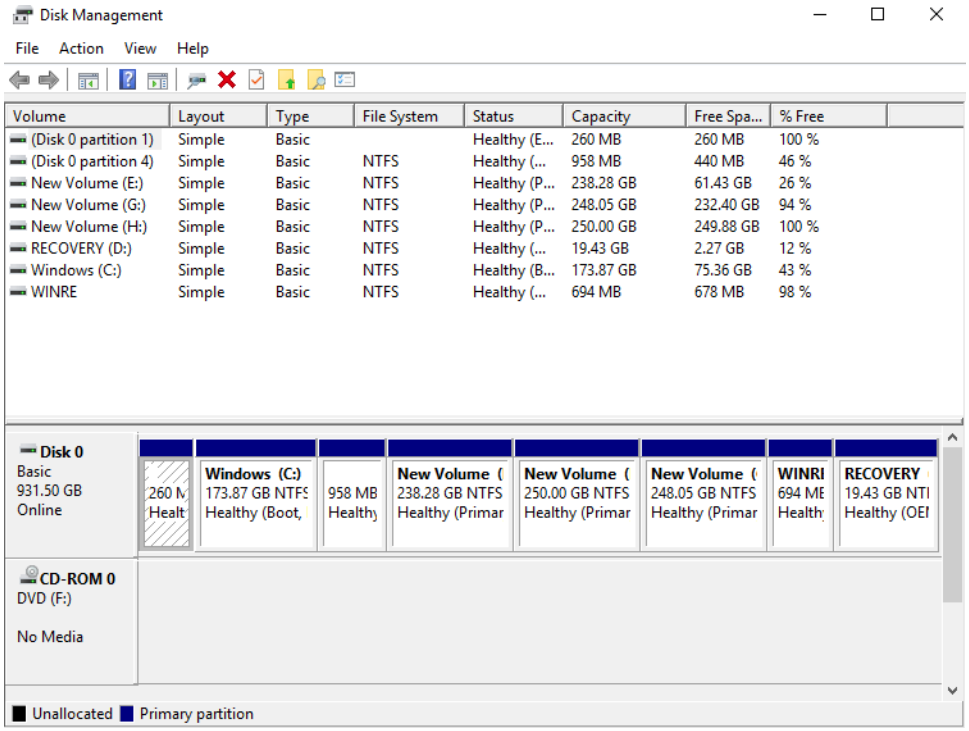

2. Below screen will appear.




3. Type below command in Open field and click OK:



4. Below Disk Management screen will appear.




5. Now Disk Management is open, you can use it for view or manage drives.

## A. Disk Partition

Partitioning divides a hard disk drive (HDD) into multiple logical storage units referred to as partitions, to treat one physical disk drive as if it were multiple disks, so that different file systems can be used on each partition.

**Benefits of multiple partitions:**

- Separation of the operating system (OS) and program files from user files.
- Keeping frequently used programs and data near each other.
- Use of multi-boot setups, which allow users to have more than one operating system.
- Protecting or isolating files, to make it easier to recover a corrupted file system or operating system installation.
- Raising overall computer performance on systems where smaller file systems are more efficient.

**Disadvantages of multiple partitions**

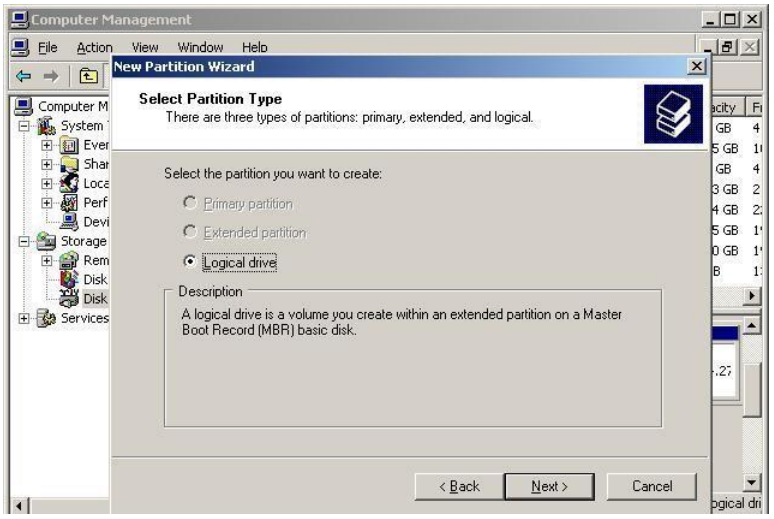
- Reduces the total space available for user storage on the disk.
- Reduces overall disk performance on systems.
- Increases disk fragmentation because it lowers the average size of continuous free blocks on each partition.
- May prevent using the whole disk capacity.

**Partitioning Operations includes:**

a. Create partition
b. Format partition
c. Delete partition

**a. Create Partition**

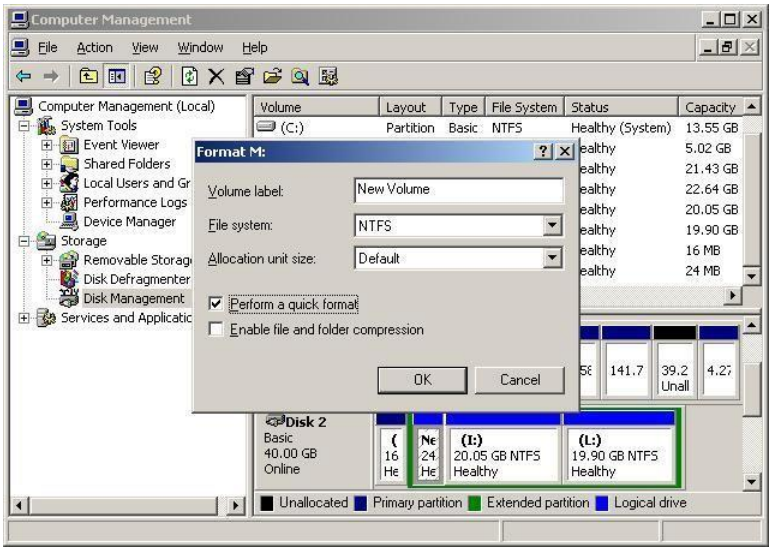
You can right click "Free space" and choose "New Logical Drive" to open "New Partition Wizard" dialog box. Then you click "Next" to open "Select Partition Type" dialog box. You choose "Logical drive" and click "Next". You have to input value of disk partition size in "Partition size in MB" text box in "Specify Partition Size" dialog box. Then, you choose drive letter and path and click "Next" to format partition.




**b. Format partition**

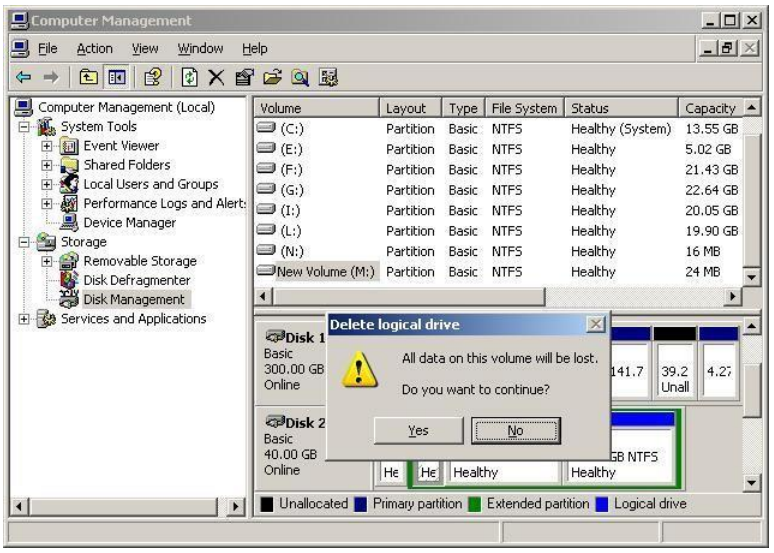
If you want system to recognize the new partition, you have to perform formatting partition. In "Format Partition" dialog box, system prompts: "Formatting will erase all data on this volume. To format the volume, click OK. To quit, click Cancel". You click "OK" to start formatting.

You can divide remained disk space into another partition according to your needs in the same way.




## c. Delete partition

You should open "Disk Management" option and right click drive M:. Then, you choose "Delete logical drive" and click "Yes" in the dialog box. "Free space" will show on Drive M:

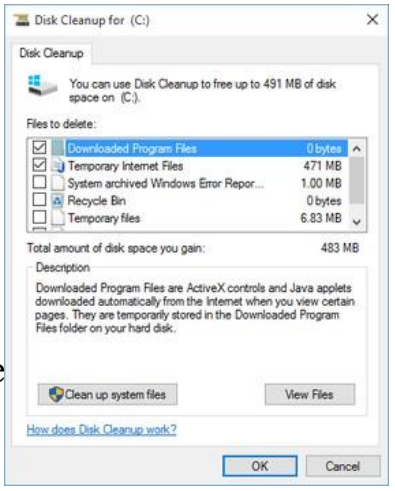



## B. Disk Clean Up

Disk Cleanup is a computer maintenance utility that is included in the Microsoft Windows operating system and is designed to free up space on the hard drive. Disk Cleanup helps free up space on your hard drive. Disk Cleanup searches your drive, and then shows you temporary files,

Internet cache files, and unnecessary program files that you can safely delete. The cleanup process involves searching and analyzing the hard drive for files that are no longer needed. Then it proceeds to remove them and thus freeing up disk space on the hard drive.

List of all the files that can be deleted:




1. Downloaded program files
2. Temporary Internet files
3. Offline webpages
4. File for the Recycle Bin
5. Temporary files
6. Web client/publisher temporary file
7. Compressed old files
8. Catalog files for the content Indexer

Disk Cleanup is a feature of Windows that enables a user to delete system/junk files safely. For example, by using the disk cleanup feature, you can free up a considerable amount of space on your PC, like getting rid of TIF (Temporary Internet Files) and other 'useless', and not required, files.

**To delete files using Disk Cleanup**

The following procedure cleans up files associated with your user account. You can also use Disk Cleanup to clean up all the files on your computer.

1. Search for Disk Cleanup (Desktop app) using the search bar and hit Enter on the keyboard.
2. In the Drives list, click the hard disk drive that you want to clean up, and then click OK.
3. In the Disk Cleanup dialog box, on the Disk Cleanup tab, select the check boxes for the file types that you want to delete, and then click OK.
4. In the message that appears, click Delete files.

## C. Disk Check

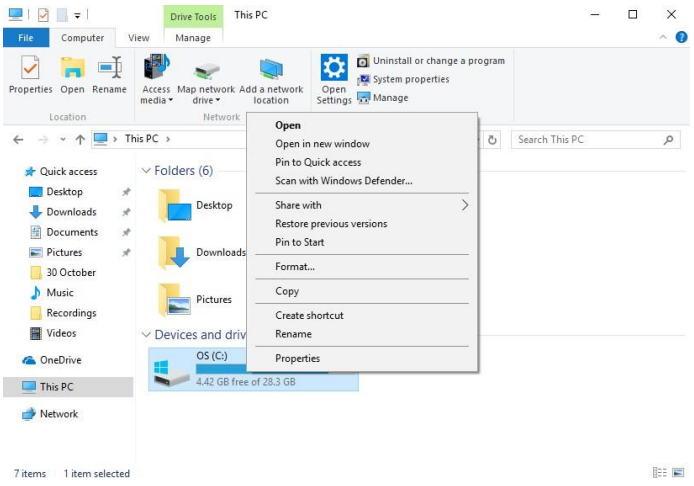
Check Disk (CHKDSK) is used to analyze hard drive errors and run repairs automatically. It can be a lifesaver for dealing with (non-physical) hard drive faults.

A glitchy or corrupted hard drive can create a moment of panic. The potential for lost files is heartbreaking, and hard drive failure is one of the top reported computer faults.

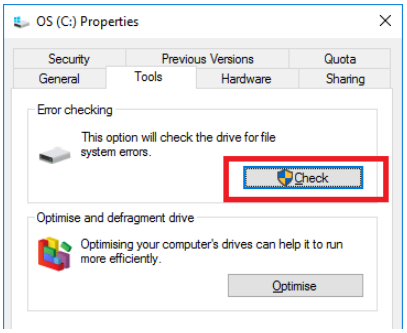
Remember, CHKDSK won't be of much help if you're dealing with a physically damaged hard drive (ex after dropping your laptop), but it can be a great tool for correcting minor errors.

**Steps on how to run CHKDSK in Windows 10 or 8.1:**

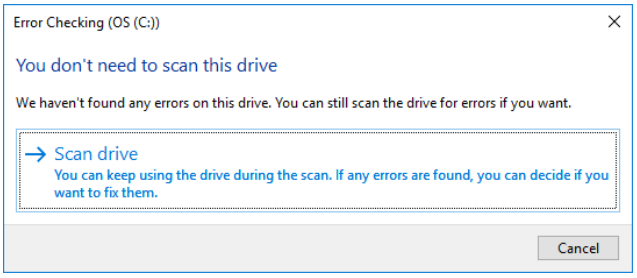
1. Open a new File Explorer window (click Windows key + E) then click **This PC**. Right-click on the drive that you wish to scan (most commonly this will be C: Drive or D: Drive) then click **Properties.**



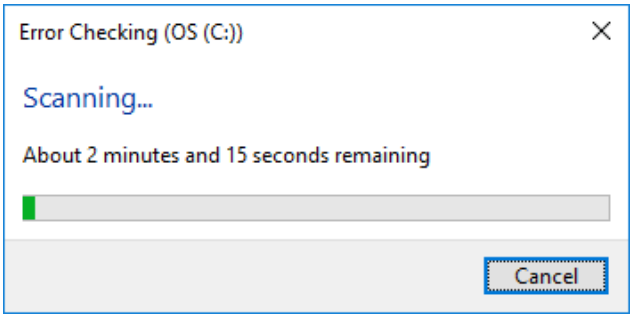

2. The Properties window for the selected drive will now open. Click the **Tools** tab, then click **Check** under the **Error checking** section.



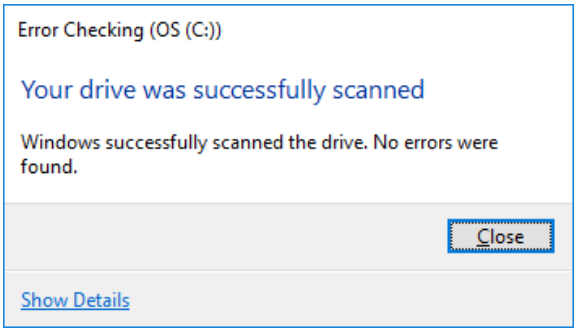
3. If your PC thinks everything is running smoothly, it'll show a window stating that you don't need to scan the drive at all. However, if you'd prefer to run a CHKDSK scan, you can proceed by clicking **Scan drive** below this.
   Don't worry, you can't do any damage to your PC by running this scan process.




4. The CHKDSK function will begin its checks. Depending on the size of your selected drive, and the amount of data stored on it, this process could take anything from a few minutes to half an hour.




5. If all is well, you'll receive the good news that the drive has been completed and no errors were found. However, if the CHKDSK scan does find errors, it will attempt to fix what it can.



## D. Disk Defragmenter

Disk Defragmenter rearranges fragmented data so your disks and drives can work more efficiently. Disk Defragmenter runs on a schedule, but you can also analyze and defragment your disks and drives manually.

When you store data into the hard disk, the data will normally occupy the disk in continuous manner if there is sufficient data space on disk. Imagine if you delete some data files, this will then leave some "gaps" in data space. When new data files need to be stored and if the size of these data files could not fit into a single gap, the data files will be segmented and fitted across several gaps with interval. Your hard disk progressively becomes fragmented after excessive usage of writing, deleting and storing of data into your disk.

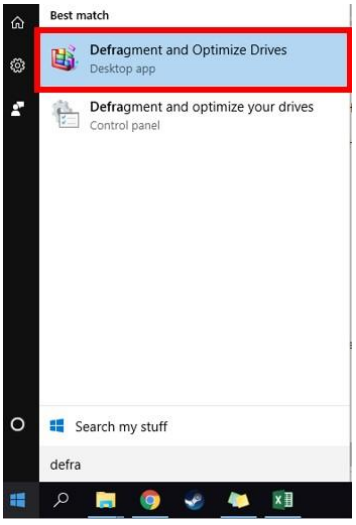
A file is typically broken into several small parts and stored in various areas on a hard disk. When a read request is executed, the disk will search for the multiple pieces, process and link them and finally present it on screen from the computer when you read a file or execute an application.

Besides improvement in system performance, disk defragmentation will also improve data recovery yield in case your disk needs to be sent in for recovery process.

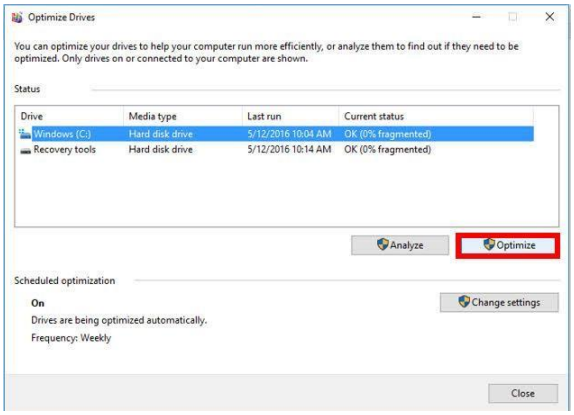
For a similar reason, you should not perform defragmentation after accidental data deletion as this will overwrite the deleted data when data blocks are moved or replaced.

### Defragmenting in Windows 10

1. In the search bar in the Start menu or on the taskbar begin typing **"Defragment and Optimize Drivers,"** selecting this option once it appears.



2. Select **“Optimize”** to begin.



## E What is more?

***Learning Task 4***

Choose the definition from Column A with the correct terminology in the Column B. Same answer can occur more than once. Write your answer on a separate sheet of paper.

| Column A | Column B |
|---|---|
| 1. It is a system utility for managing hard disks and the volumes or partitions that they contain | A. CHKDSK<br>B. diskmanagement.msc |
| 2. Allow users to have more than one operating system | C. Disk Cleanup |
| 3. Shortcut for Disk management in Run | D. Administrative Tools |
| 4. Inside this you can found Computer Management | E. Disk Defragmenter |
| 5. Divides HDD into multiple logical storage | F. Disk Partition |
| 6. It analyze drive errors and run repairs automatically | G. Dual boot/Multi boot |
| 7. Searches drive, and then shows unnecessary program files that can be deleted | |
| 8. Separate the OS and program files from user files | |
| 9. Removes file for the Recycle Bin | |
| 10. Rearranges fragmented data so your disks and drives | |

## *Learning Task 5*

Classify the words below according to the correct function. Copy the guide given below on a separate sheet of paper.

*Temporary Internet Files*
*Allows Multiple Operating System*
*Rearranges fragmented data*
*Compressed old files*
*Separate OS and user files*
*Improves data recovery*
*Analyze hard drive error*
*Removes file in Recycle Bin*
*Removes Offline webpages*
*Easy recovery of corrupted file*

| **Disk Partition** | **Disk Clean Up** | **Disk Check** | **Disk Defragmenter** |
|---|---|---|---|
| | | | |
| | | | |
| | | | |
| | | | |

# A What I have learned?

**Learning Task 6: Post Test**

Write your answer on the space provided before the number. Choose the letters only.

_____1. It rearranges fragmented data so your disks and drives can work more efficiently.

A. Disk Check C. Disk Partition
B. Disk Cleanup D. Disk Defragmenter

_____2. It is a system utility for managing hard disks and the volumes or partitions that they contain.

A. Disk Check C. Disk Partition
B. Disk Cleanup D. Disk Defragmenter

_____3. It is used to analyze drive errors and run repairs automatically.

A. Disk Check C. Disk Partition
B. Disk Cleanup D. Disk Defragmenter

_____4. Which of the following are the functions of Disk Clean up?

A. Downloaded program files C. Catalog files for the content Indexer
B. Temporary files D. All of the above

_____5. It is shortcut key type in the Run Dialog Box to open Disk Management

A. ncpa.cpla C. diskmanagement.msc
B. diskmngt.ppt D. control panel

_____6. It is used to separate the operating system and program files from user files.

A. Disk Check C. Disk Partition
B. Disk Cleanup D. Disk Defragmenter

_____7. The following are the disadvantages of Disk Partition except

A. Reduces the total space available for user storage on the disk.
B. Reduces overall disk performance on systems.
C. Raising overall computer performance on systems.
D. May prevent using the whole disk capacity.

_____8. Which is the correct steps in opening Disk Management using Control panel?

A. Control Panel ->System and Security -> Administrative tools ->
Computer Management -> Storage -> Disk Management
B. Control Panel ->Administrative tools -> System and Security ->
Computer Management -> Disk Management
C. Control Panel -> Administrative tools -> System and Security ->
Computer Management -> Storage ->Disk Management
D. Control Panel -> Administrative tools ->Storage ->Disk Management

_____9. It is a computer maintenance utility that helps free up space on your hard drive by deleting unnecessary files.

A. Disk Check C. Disk Partition
B. Disk Cleanup D. Disk Defragmenter

_____10. Which of the following are the functions of Disk Partition?

A. Divides HDD into multiple logical storage
B. Reduces overall disk performance on systems.
C. Reduces overall computer performance on systems.
D. Removes file for the Recycle Bin

***Learning Task 7***

List down at least five importance of defragmentation and partitioning and its effect a computers performance. Write your answer on a separate sheet of paper.

| |
|---|
| 1. |
| 2. |
| 3. |
| 4. |
| 5. |

# Week 5
# I What I need to know?

This module was designed and written with you in mind. It is here to help you understand Computer Systems Servicing. This module tackles basic concepts of antivirus software.

Upon completion of the module, you should be able to:

a. identify what is an antivirus software
b. understand the advantages of installing antivirus software on computer
c. enumerate common antivirus software available in the market

Your target output for each lesson for this module are as follows:

| **LESSON/ TOPIC** | **Most Essential Learning Competencies** | **Learning Task/ Application/ Assessment** | **Duration** |
|---|---|---|---|
| Antivirus Software | LO4.3 Access software updates in accordance with manufacturer's recommendations and requirements | Learning Task 1: Self-Assessment<br><br>Learning Task 2: Pretest<br><br>Learning Task 3: True or False<br><br>Learning Task 4: Identify the Logo<br><br>Learning Task 5: Word Hunt<br><br>Learning Task 6: Post Test<br><br>Learning Task 7: Reflection | 5 days |

**Learning Task 1: Self-Assessment**

Hi! You are about to start this module. Before anything else, take this SELF-ASSESSMENT survey questionnaire.

| **Antivirus Software** | | |
|---|---|---|
| Can I…….. | **YES** | **NO** |
| Determine requirements of task in accordance with the required output | | |
| Select appropriate antivirus software according to task assigned and required outcome | | |
| Plan a task to ensure that OHS guidelines and procedures are followed during installation of antivirus software | | |
| Follow client-specific guidelines and procedures | | |

Well done! How many of those in the survey are you knowledgeable of? Do not worry because you are able to learn more upon completion of this module.

**Learning Task 2: Pretest.** Given the scrambled letters of different computer peripheral devices, write down the correct answer on the space provided.

1. **TAINVISUR SWOAREFT** _____
2. **REMALWA** _____
3. **WRESBRO HERSIJACK** _____
4. **PUCTEROM SVIRU** _____
5. **SWARPEY** _____

# I What is new?

**What is a Computer Virus?**

Computer viruses are created with malicious intent and sent by attackers. A virus is attached to small pieces of computer code, software, or document. The virus executes when the software is run on a computer. If the virus spreads to other computers, those computers could continue to spread the virus.

A virus is transferred to another computer through e-mail, file transfers, and instant messaging. The virus hides by attaching itself to a file on the computer. When the file is accessed, the virus executes and infects the computer. A virus has the potential to corrupt or even delete files on your computer, use your e-mail to spread itself to other computers, or even erase your hard drive. Some viruses can be exceptionally dangerous.

**Learning Task 3**

Take this assessment to know what you already know about antivirus software. Write TRUE if the statement is correct and FALSE if the statement is incorrect.

1. Computer and network security help keep data and equipment safe.
2. A technician's primary responsibilities include data and network security.
3. Threats to security can come from inside and outside the organization.
4. Computer viruses are created and sent by attackers who have malicious intent.
5. A virus is transferred to another computer through e-mail, file transfer and instant messaging.

# D What is it?

## ANTIVIRUS SOFTWARE

Antivirus software is an application or a suite of programs that finds and removes viruses on computers and networks. In addition to viruses, most of today's antivirus programs are also capable of detecting and removing other types of malicious software, including worms, Trojans, adware, spyware, ransomware, browser hijackers, keyloggers, and rootkits. Besides being able to identify and remove these threats, the best antivirus software can also prevent them from infecting your system.

In case your computer is attacked by a virus, it can affect your computer in the following ways:

- Slow down the computer
- Damage or delete files
- Reformat hard disk
- Frequent computer crashes
- Data loss
- Inability to perform any task on the computer or the internet

**Examples of Antivirus Programs**

**A. Bitdefender**

Bitdefender Total Security is a comprehensive security suite that provides optimal protection against viruses and all types of malicious software. Compatible with the four major operating systems and smart homes, this user-friendly antivirus software also includes a free VPN with a 200MB daily limit, parental controls, webcam protection, a password manager, and a tool specifically designed to fight ransomware. This security suite is very competitively priced and will provide 24/7 protection for up to five devices.

**B. Norton**


Symantec's Norton has been around for almost three decades and is without a doubt one of the most recognizable names in cybersecurity. Its security software suite Norton Security Premium is compatible with all four major platforms as well as smart homes and comes with a variety of excellent features. Although it doesn't include a free VPN service, it offers parental controls and a whopping 25GB of online storage space. This is great for owners of multiple gadgets, as one license protects up to 10 devices.

**C. Panda**


Panda is another excellent antivirus program that offers excellent protection from all known cyber threats. Known for its fast performance, this antivirus software is only compatible with Windows, macOS, and Android. Despite not supporting iOS, the suite comes with a VPN service with a 150MB daily limit, a password manager, parental controls, and a standalone USB antivirus program. Designed to provide protection for up to five devices, Panda Antivirus also includes a full Android malware scanner.

**D. McAfee LiveSafe**


McAfee LiveSafe is unique in that a single license is valid for an unlimited amount of devices. Compatible with all four major operating systems, this security suite provides superior malware protection for Windows and Android-powered machines without affecting their performance. Although the parental control function is not as advanced as the competition, the inclusion of McAfee's True Key password manager more than makes up for it. Equipped with facial recognition functionality, it will keep all your login data extra-safe.

**E. BullGuard**


Another security software suite designed primarily for Windows and Android, BullGuard offers a high level of antivirus and anti-malware protection without slowing down your computer. Although there's no VPN included in the package, there are plenty of bells and whistles here, including a game booster, cloud backup, parental control, and safe browsing functionality. However, macOS users can only run antivirus scans, while the suite is incompatible with iOS. A single license is valid for up to five devices.

## E What is more?

***Learning Task 4***

Based on the given logo, identify the name of antivirus software. Write your answer on a separate sheet of paper.

| | |
|---|---|
| 1. | Answer: _____ |
| 2. | Answer: _____ |
| 3. | Answer: _____ |
| 4. | Answer: _____ |
| 5. | Answer: _____ |

***Learning Task 5***

Find a total of 10 words related to antivirus software which can be in horizontal, vertical, or diagonal directions. Write your answer on a separate sheet of paper. Have fun learning.

| A | B | P | R | O | T | E | C | T | I | O | N | B |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| W | O | R | M | S | C | D | F | G | H | J | K | O |
| S | Y | Q | I | W | X | Y | G | L | S | X | A | Y |
| Z | P | K | E | Y | L | O | G | G | E | R | S | P |
| A | T | Y | O | P | T | H | J | L | C | I | Z | X |
| D | R | N | W | M | O | N | J | S | U | Y | M | B |
| W | O | M | S | A | C | T | V | Z | R | V | A | C |
| A | J | O | O | Q | R | U | I | U | I | T | L | D |
| R | A | P | J | L | A | E | R | V | T | Z | W | F |
| E | N | Q | K | M | V | O | U | O | Y | S | A | H |
| Y | I | E | S | N | Z | I | S | P | L | K | R | I |
| R | A | N | S | O | M | W | A | R | E | J | E | A |

**Answers**

| | |
|---|---|
| 1. | 6. |
| 2. | 7. |
| 3. | 8. |
| 4. | 9. |
| 5. | 10. |

**Learning Task 6: Post Test**

Write your answer on the space provided before the number. Choose the letters only.

_____1. It is an application or a suite of programs that finds and removes viruses on computers and networks.
A. Antivirus software C. Maintenance
B. Malware D. Operating System

_____2. It is created by Symantec company to protect computer from viruses.
A. Bitdefender C. Norton
B. Panda D. Windows Defender

_____3. This software is unique in that a single license is valid for an unlimited amount of devices.
A. McAfee C. Avira
B. AVG D. Windows Defender

_____4. This is comprehensive security suite provides optimal protection against viruses and malicious software compatible with four major operating systems.
A. McAfee C. Norton
B. AVG D. Bitdefender

_____5. This antivirus program is known for its fast performance, compatible with Windows, macOS, and Android except iOS.
A. Bitdefender C. Norton
B. Panda D. Windows Defender

_____6. Which of the following is detected and removed to protect your computer?
A. Trojan horse C. Spyware
B. Adware D. All of the above

_____7. If you experienced this your computer might be infected by virus EXCEPT
A. Slow down the computer
B. Good internet connection
C. Frequent computer crashes
D. Damage or delete files

_____8. Which of the following is also an example of antivirus software?

A. Microsoft Office C. Kaspersky
B. Canva D. Google Chrome

_____9. A good antivirus software does the following task to protect your computer.

A. Detect virus C. Removes viruses
B. Multiply viruses D. Both A & C

_____10. It is security software suite designed primarily for Windows and Android, offers a high level of antivirus without slowing down your computer.

A. Bullguard C. Norton
B. Panda D. Bitdefender

***Learning Task 7***

Read the questions carefully and limit your answers to 3-4 sentences. Use separate sheet of paper. Erasures are not allowed.

| |
|---|
| **1.** In your daily life, how does a comprehensive virus protection programs help protect your files and your computer. |
| Answer: |
| |
| |
| |
| **2.** What antivirus software you are using on your computer? What is the good feature of this antivirus? |
| Answer: |
| |
| |
| |

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