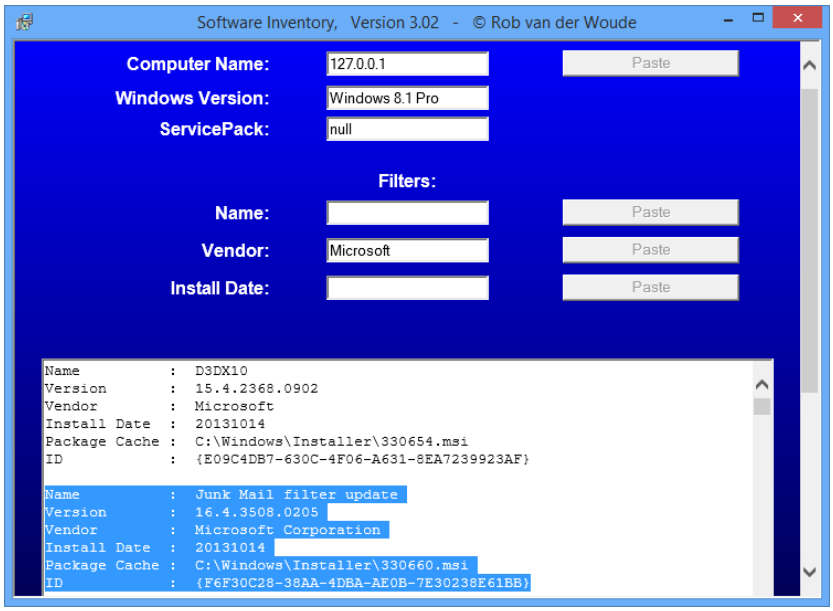
Web Development and Database Administration

Level-I

Based on March 2022, Curriculum Version 1



Module Title: Maintain Inventories of Hardware and Software and Documentation

Module code: EIS WDDBA1 M09 0322

Nominal duration: 30 Hour

Prepared by: Ministry of Labor and Skill

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Addis Ababa, Ethiopia

Table of Contents

Acknowledgment

Ministry of Labor and Skills wish to extend thanks and appreciation to the many representatives of TVET instructors and respective industry experts who donated their time and expertise to the development of this Teaching, Training and Learning Materials (TTLM).

Acronym

CPU – Central Processing Unit

DNS – Domain Name System

PDF – Portable Document Format

CD – Compact Disk

RAM – Random Access Memory

LED – Light Emitting Diode

PSU – Power Supply Unit

BIOS – Basic Input Output System

POST – Power on Self-Test

Introduction to the Module

This learner's guide is prepared to help you achieve the required competence in "Web Development and Database Administration". This will be the source of information for you to acquire knowledge and skills in Accessing and use database applications and perform basic operations.

This module covers the units :

- Document and update inventory
- Store technical documentation
- Access quality of receive articles

Learning Objective of the Module

- Create a profile or description of each piece of equipment
- Record and organize storage of user documentation or technical manuals
- Store securely technical documentation.
- Access and disseminate technical documentation as required by clients.
- Check received materials, articles or final product against workplace standards.
- Identify and correct the causes of any identified faults in accordance with the workplace procedures.

Module Instruction

For effective use this modules trainees are expected to follow the following module instruction:

1. Read the information written in each unit
2. Accomplish the Self-checks at the end of each unit
3. Perform Operation Sheets which were provided at the end of units
4. Do the "LAP test" given at the end of each unit and
5. Read the identified reference book for examples and exercise

Unit one: Document and update inventory

This learning unit is developed to provide the trainees the necessary information regarding the following content coverage and topics:

- Maintaining Hardware inventory
- Maintaining and updating licenses and Software inventory
- Recording and organizing storage of user documentation or technical manuals

This unit will also assist you to attain the learning outcomes stated in the cover page. Specifically, upon completion of this learning guide, you will be able to:

- Create a profile or description of each piece of equipment
- Maintain and update software inventory and licenses as required
- Record and organize storage of user documentation or technical manuals

1.1. Maintaining Hardware Inventory

1.1.1. Defining asset and inventory items

An inventory is basically a detailed list of items. How assets and inventory items of a company should be treated will ordinarily form part of the organizational guidelines.

A company item will be defined as either an asset or inventory item, that is, not all items will be recorded in an inventory. For example, an expensive laser printer would not be placed in the inventory but will be placed in the asset register of the organization.

Consumables, such as printer cartridges, would be placed in the inventory as 'consumables'. Some inventories allow for asset numbers to be recorded with the data of an inventory item to allow that item to be associated with a specific asset.

1.1.2. Inventory Control

Inventory control, also called stock control, is the process of ensuring the right amount of supply is available in an organization. With the appropriate internal and production controls, the practice ensures the company can meet customer demand and delivers financial elasticity.

Successful inventory control requires data from purchases, reorders, shipping, warehousing, storage, receiving, customer satisfaction, loss prevention and turnover. According to the 2017 "State of Small Business Report", almost half of small businesses do not track their inventory, even manually.

Inventory control enables the maximum amount of profit from the least amount of investment in stock without affecting customer satisfaction. Done right, it allows companies to assess their current state concerning assets, account balances and financial reports. Inventory control can help avoid problems, such as out-of-stock (stockout) events. For example, Walmart estimated it missed out on $3 billion worth of sales in 2014 because its inadequate inventory control procedures led to stockouts.

An integral part of inventory control is supply chain management (SCM), which manages the flow of raw materials, goods and services to the point where the company or customers consume the goods. Warehouse management also squarely falls into the arena of stock control. This process includes integrating product coding, reorder points and reports, all product details, inventory lists

and counts and methods for selling or storing. Warehouse management then synchronizes sales and purchases to the stock on hand.

Inventory management is a higher-level term that encompasses the complete process of procuring, storing, and making a profit from your merchandise or services. While inventory control and inventory management may seem interchangeable, they are not. Inventory control regulates what is already in the warehouse. Inventory management is broader and regulates everything from what is in the warehouse to how a business gets the product there and the item's final destination.

Inventory control practices and policies should apply to more than just finished and raw goods. The following graphic shows all the things a business might manage using these practices.

How Inventory Control Can Improve Your Business

Implementing proper inventory control procedures can help ensure a business is running at optimal financial levels and that products meet customers' needs and expectations. According to the 2015 "Global State of Multichannel Customer Service Report", 62% of customers have stopped doing business with a brand whose customer service was poor. Of those customer service complaints, frustration over out-of-stock or backordered items is high on the list. In fact, research about convenience stores shows that out-of-stocks could cause a store to lose one in every 100 customers completely. Additionally, 55% of shoppers in any store would not purchase an alternate item when their regular product is out-of-stock. Other areas where businesses incur expenses or lose sales that inventory control practices and methods could address include:

- Spoilage
- Dead stock
- Excess storage costs
- Cost-efficiency
- Decreased sales
- Losing loyal customers
- Excess stock
- Losing track of inventory
- Losing goods in the warehouse

According to David Pyke, co-author of Inventory and Production Management in Supply Chains, now out in its fourth edition, and professor of operations and supply chain management at the University of San Diego, "owners of small and emerging businesses would be stunned to see how much help they can get and money they can save by wisely managing their inventory. Many small businesses are not rolling in cash, and much of their funding is tied up in their inventory. Good practices balance customer demand and management of inventory in the smartest possible ways." Some businesses prefer to stick to the simple systems of keeping track of inventory. Other companies plan for growth and scaling. You could also track inventory with:

- **Advanced Software:** Designed for tracking inventory, most of these targeted software solutions can integrate with existing software, are scalable and provide analytics and templates. Advanced software is now in reach for many small and midsize businesses because it is no longer cost prohibitive.

1.1.3. Maintaining a hardware inventory

There is a very large array of hardware that can be used in a computer system. There are CPUs, hard drives, network cards, printers, routers, monitors, video cards and cables, just to mention a few. There are also many options within each of these broad categories.

Depending upon the organisational decisions that are made regarding the variety of devices that will be used on the network, the detail of inventory items can be simplified or become extremely complex. It is not your job to choose the method of inventory but to maintain the inventory. The amount of detail you put into the descriptors of individual items may well be your choice. It is critical that enough detail be included to clearly identify the class and capacity of items, but not too much detail to slow the inventory search devices and increase the storage capacity required.

1.1.4. Computer Details

The Computers view is the details of the computers and their operating systems. Lists Below provides the following details of the computers:

- **Computer Name**: The /DNS/ The *Domain Name System* is a hierarchical distributed naming system for computers/
- **Hardware Name**: Name of the hardware device.
- **Hardware Type**: Type of the hardware like processor, keyboard, port, etc.

- **Manufacturer**: Name of the manufacturer of that hardware device.
- **Operating system**: The operating system of the computer
- **Service Pack**: The service pack version of the operating system
- **Version**: The operating system version.
- **Virtual Memory**: Total virtual memory in kilobytes.
- **Visible Virtual Memory**: Total physical memory that is available to the operating system.

1.1.5. Hardware Inventory Reports

- **Computers by OS**

  Is the details of the computers by their operating system.

- **Computers by Manufacturer**

  Is the details of the computers by their manufacturer.

- **Computers by Memory**

  Is the details of the computers by their RAM size.

- **Computers by Age**

  Is the details of the computers by their year of manufacturing.

- **Computers by Device Type**

  Is the details of the computers based on their type like, Laptop, Portable, Desktop etc.

- **Computer by Disk Usage**

  Is the details of the computers along with their total and free hard disk spa

Table 1. 1 Hardware Inventory

Hardware	Toshiba
CPU	Core i3
RAM	8 GB
Operating System	Window 10
Hard Disk	1 TB

1.2. Maintaining and Updating licenses and Software inventory

1.2.1. Maintaining a software inventory

Software is classified into two broad classes: **operating system software** and **application software**. Application software is further broken down into sub-classes such as office, database, software development and so forth.

Many types of application software are written to run on specific operating system platforms. Microsoft Office will not run on a Linux platform unless you have installed a Windows emulator. Therefore the inventory might need to be segregated by platform. This is not your problem as you are only required to maintain an inventory not create one. However, you should be aware of the ramifications of accurately maintaining an inventory.

Detailed definition of the types of application software may need to be sought from a supervisor. For example, are database and spreadsheet application software going to be place in the same categories or are the various packages of Microsoft Office, eg Word, Excel, PowerPoint, going to be placed in the same sections because they are part of the Office suite? On the other hand, application software may be classified by the process it performs. Different versions of application software offer different or improved features; in most cases they are designed to work with a particular operating system. Are these versions going to be separated or not? Depending on the organisational guidelines, you may or may not be required to make these decisions.

1.2.2. Software Details

The Software Inventory provides the details of the software detected in the systems. You can filter the view by Software Type, Access Type, or License. It provides the following details:

- **Software Name**: Name of the software.
- **Version:** The version of the software.
- **Software Type**: Can be either commercial or non-commercial.
- **Vendor:** The software vendor/seller.
- **Licensed To**: Refers to the person or the company to whom the software is licensed.
- **License Expiry Date**: Date of license expiry.
- **Remarks**: Remarks, if any.

1.2.3. Software Inventory Reports

- **Software by Manufacturer**

  Is the details of the software installed in the scanned systems based on their vendors along with the total number of copies installed.

- **Recently Installed Software**

  Is the list of software installed recently.

- **Software Usage by Computer**

  Is the list of software and their usage statistics in individual computers.

- **Software Product Keys**

  Is the list of Product Keys that were used for installing the software.

Table 1. 2 Software Inventory

Microsoft Office	2019
Visual Studio Professional	2022
Adobe Photoshop	9.0
Adobe Acrobat Reader	11.3
Windows Midia Player	12

1.3. Recording and organizing storage of user documentation or technical manuals

1.3.1. User and Technical documentation

- **User documentation** is an important and necessary resource for the productive use of a software application package. The amount of user documentation will depend upon the nature of the user licensing. Some years ago, commercial entities complained to software developers that too much user documentation was distributed to a business when multiple copies of the software were purchased. The concept of site licensing was introduced.

- **Technical manuals** form an integral part of the management of the hardware devices and should, therefore, be a main part of the inventory entry. For example, with modern hardware devices the manuals are often placed on an accompanying CD in perhaps a PDF file. Details and location of the CD may form part of the inventory item data. A decision might be made to print a hardcopy of the manual or in another instance a manual might be supplied. The locations of these hard copies should also appear as part of the inventory item data.

1.3.2. Use of IT documentation

An IT organization or department will accumulate many technical papers, records and books. Some documents and manuals may be easy to find, while others can be misplaced, lost or damaged. To avoid the latter, methods similar to the inventory of hardware and software can be applied to documentation.

In an IT support role, you may be called upon to provide a friendly information resource for clients. You should be able to easily find and use the information they need.

You may otherwise need to advise clients on:

- What information is available and where it might be
- How it can be found and retrieved (different media and formats)
- How the information can be searched, stored or printed
- How it can be sent to them.

Think about the types of IT documentation and when it may be needed or requested. You will need to answer requests quickly and effectively.

A customer may ask for:

- A software manual, so to install a program
- A manual to check compatibility with other hardware or software
- Instructions to perform a specific task.

A colleague may ask for work instructions such as how to:

- Reset a mainframe password
- Check a local area network (LAN) printer queue
- Set a computer for remote access.

A manager or auditor may ask for computer inventory records or software licensing records.

1.3.3. Types and attributes of documentation

A document is information and the supporting medium that carries the information. The medium can be paper (hard copy), a magnetic, electronic, or optical computer disc, a photograph or master sample, or a combination thereof. A set of documents, such as specifications, records, manuals or plans is frequently called ‘documentation’.

1.3.4. Reference collections

If your organization or department has a reference collection (and it should have) it could include books, CDs, DVDs, technical manuals and online resources that staff and clients use to find particular information. Reference items that may be kept on open shelving (but must still be accounted for), include:

- procedural and technical manuals
- technical reference books and textbooks
- catalogues
- directories
- manufacturer’s specifications
- technical magazines, journals
- Training guides.

Software manuals on paper or CD ROM for a particular software program may be kept at the workstation running the application

Self-check-1

Test-I True or False

Directions: Say True if the statement is Correct and False if the statement is Wrong

1. Software is a programs or commands.
2. User documentation is an important and necessary resource for the productive use of a software application package.
3. Reference collections doesn't contain procedural and technical manuals

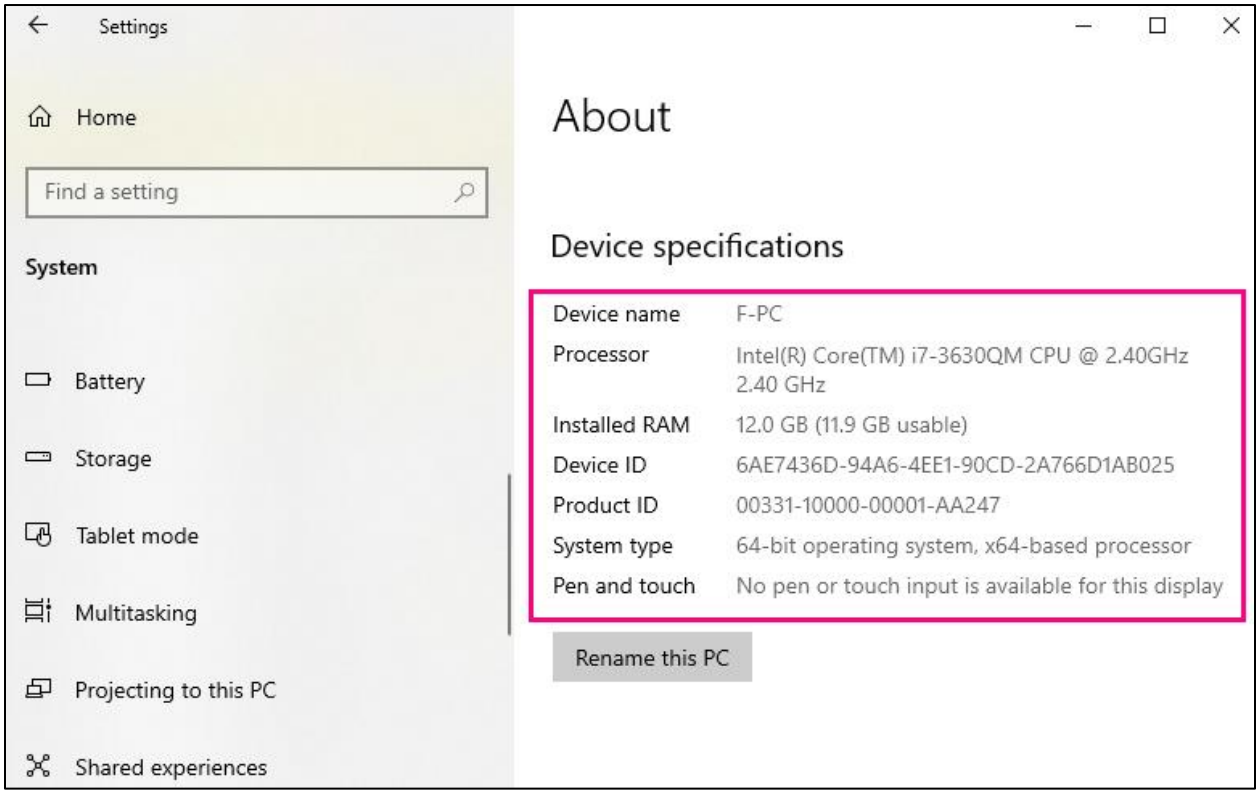
Test-II Choice

Directions: Answer all the questions listed below.

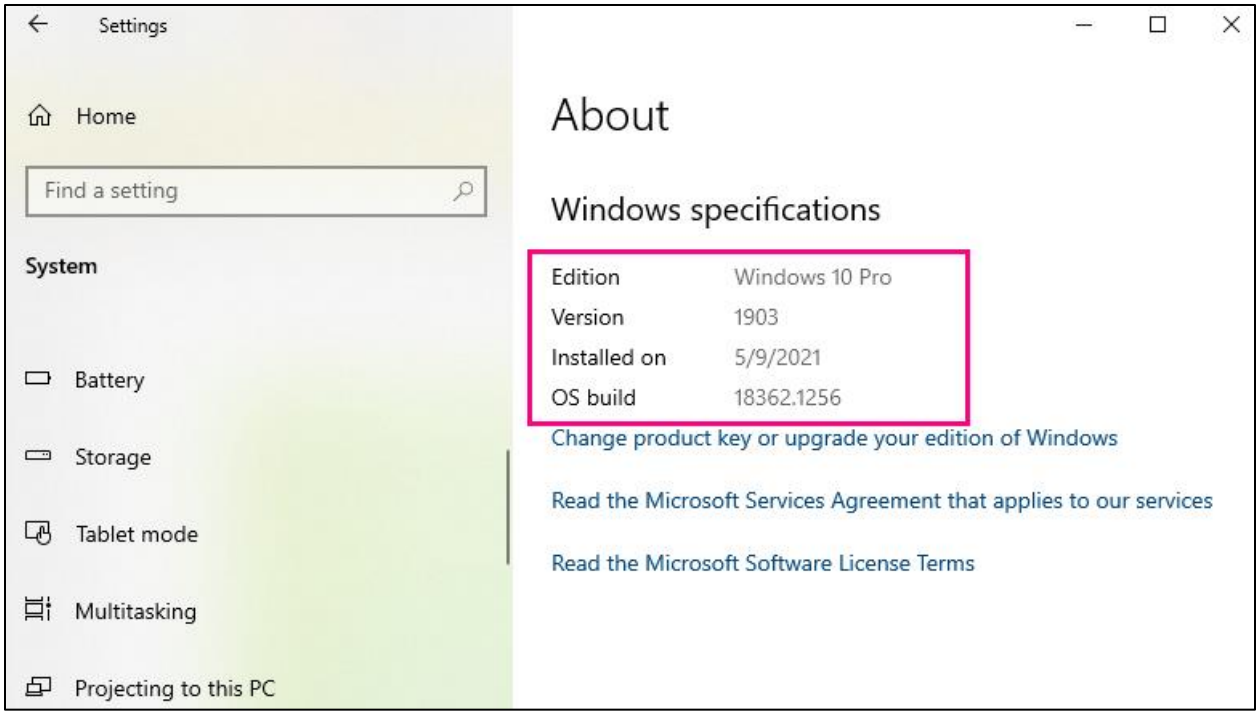
1. One of the following is not consider hardware inventories
    A. Hard drives
    B. Printers
    C. Softcopy
    D. All
2. Which one of the following is not parts of Software Inventory Reports.
    A. Recently Installed Software
    B. Software Usage by Computer
    C. Software by Manufacturer
    D. None
3. Which one of the following is not show Reference items?
    A. Catalogues
    B. Manufacturer's specifications
    C. Training guides.
    D. All

Operation sheet 1.1: Find Computer Specs using Settings

- **Operation title**: Find computer specs using settings
- **Purpose**: To Find out computer specs for inventory
- **Instruction**: Use the given step below appropriately. For this operation you have given 10 minutes and you are expected to provide the answer.
- **Tools and requirement**: Computer
- **Procedures in doing the task**
    1. Open **Settings**.
    2. Click on **System**.
    3. Click on **About**.
    4. Under the **Device specifications** section, check the processor, system memory (RAM), architecture (32-bit or 64-bit), and pen and touch support.



5. Under the Windows specifications section, check the software specifications:

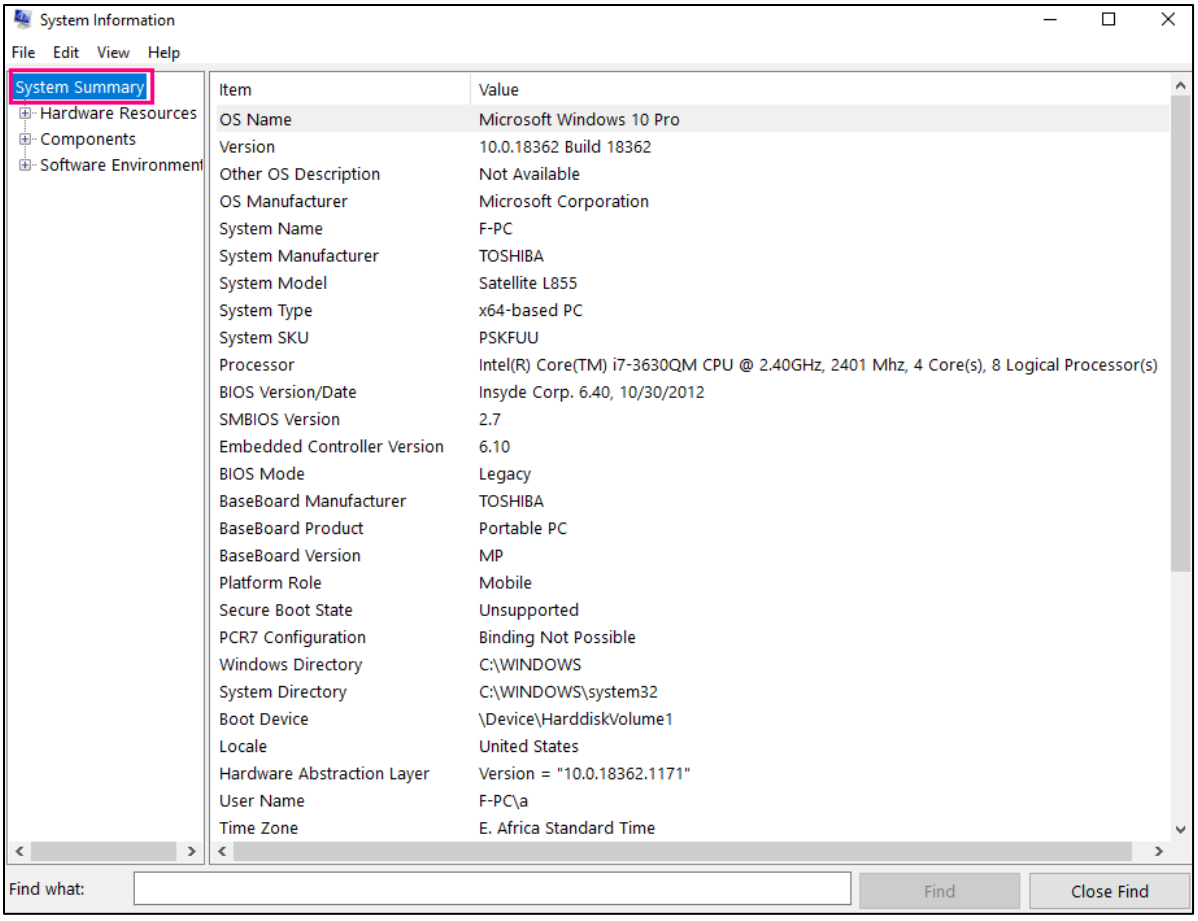


- **Quality Criteria**: Once you complete the steps, you will understand the computer's basic technical specifications.

Operation sheet 1.2: Find Computer Specs using System Information

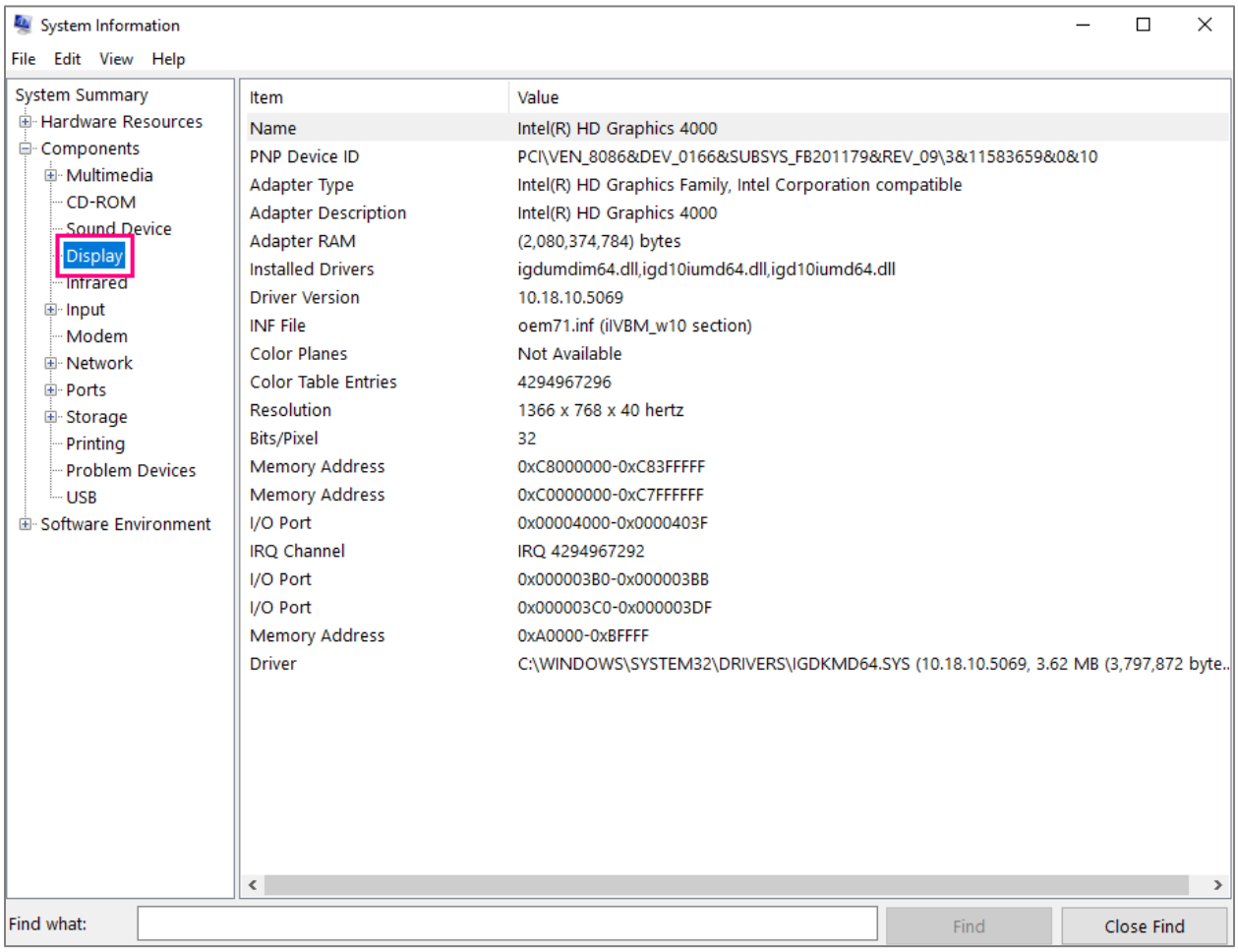
- **Operation title**: Find computer specs using system information
- **Purpose**: To view all the hardware specs of the computer
- **Instruction**: Use the given step below appropriately. For this operation you have given 10 minutes and you are expected to provide the answer.
- **Tools and requirement**: Computer
- **Procedures in doing the task**

1. Open **Start**.
2. Search for **msinfo32** and click the top result to open the **System Information** app.
3. Select the **System Summary** category from the left navigation pane.



4. Confirm the computer specs on the right side, including system model and type, processor brand and model, UEFI (or legacy BIOS) version and other details, system memory capacity, motherboard brand and model, and virtualization support.

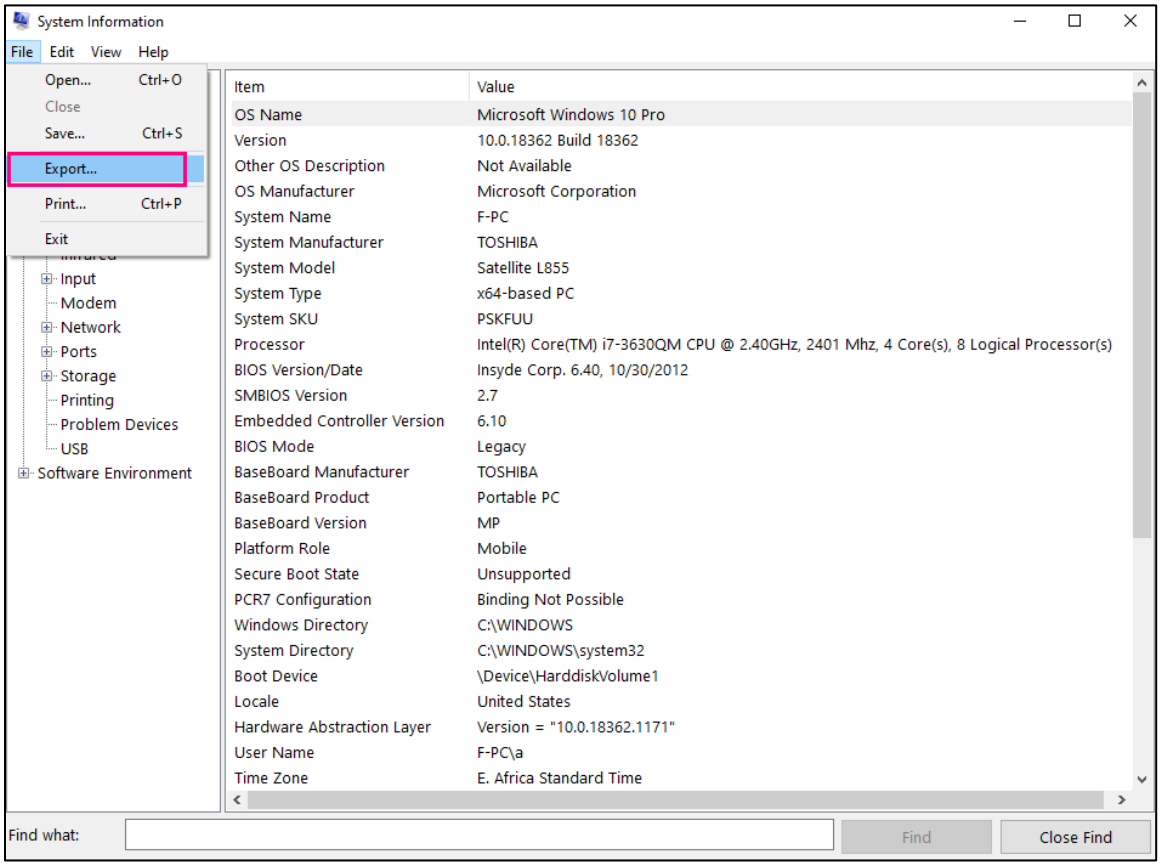
5. (Optional) Expand the Components branch.
6. Click on Display to view the graphics card technical information.



- **Quality Criteria**: After you complete the steps, you have to find a detailed overview of the laptop or desktop specs.

Operation sheet 1.3: Create hardware specs

- **Operation title**: Create hardware specs using system information
- **Purpose**: To Create hardware specs report
- **Instruction**: Use the given step below appropriately. For this operation you have given 10 minutes and you are expected to provide the answer.
- **Tools and requirement**: Computer
- **Procedures in doing the task**
  1. Open **Start**.
  2. Search for **msinfo32** and click the top result to open the **System Information** app.
  3. Select the specifications to export from the left navigation pane. **Quick tip:** Selecting **System Summary** will export everything. However, if you only need to export the graphics card details, you only need to select the **Display** item.
  4. Click on the **File** menu.
  5. Click the **Export** option.



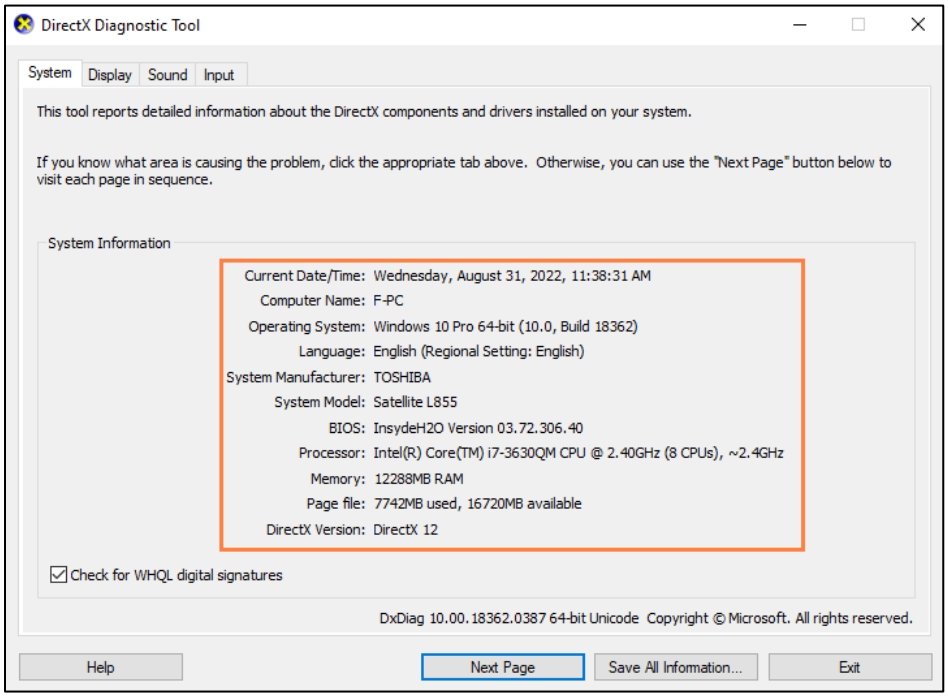
6. Select the folder to export the file.
7. Confirm a descriptive name for the report — for example, "Windows 10 Hardware Specifications".
8. Click the Save button.
9. Open File Explorer.
10. Open the folder containing the exported information.
11. Right-click the text file and select the open option to view the exported system information.

- **Quality Criteria:** Export the specification properly.

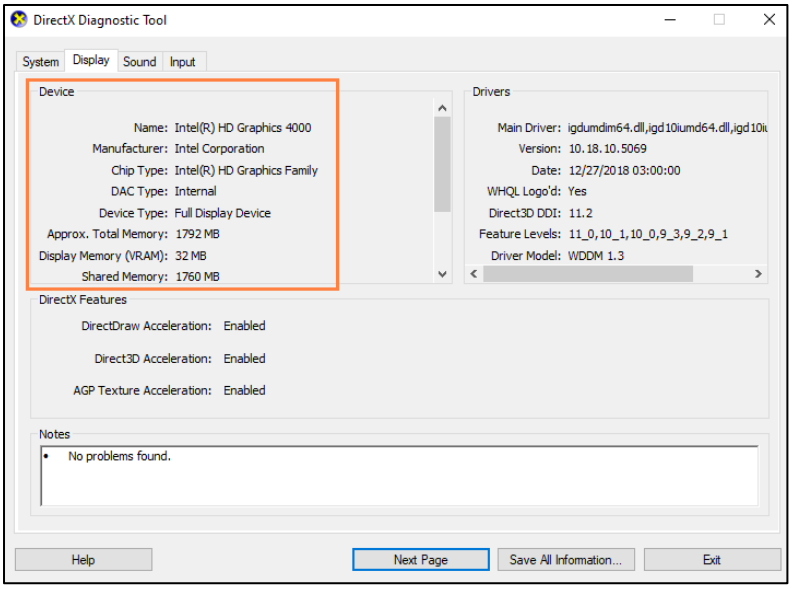
Operation sheet 1.4: Find Computer Specs using DirectX Diagnostic Tool

- **Operation title**: Find computer specs using DirectX Diagnostic Tool
- **Purpose**: To check your Windows 10 computer specs with the DirectX Diagnostic Tool
- **Instruction**: Use the given step below appropriately. For this operation you have given 10 minutes and you are expected to provide the answer.
- **Tools and requirement**: Computer
- **Procedures in doing the task**

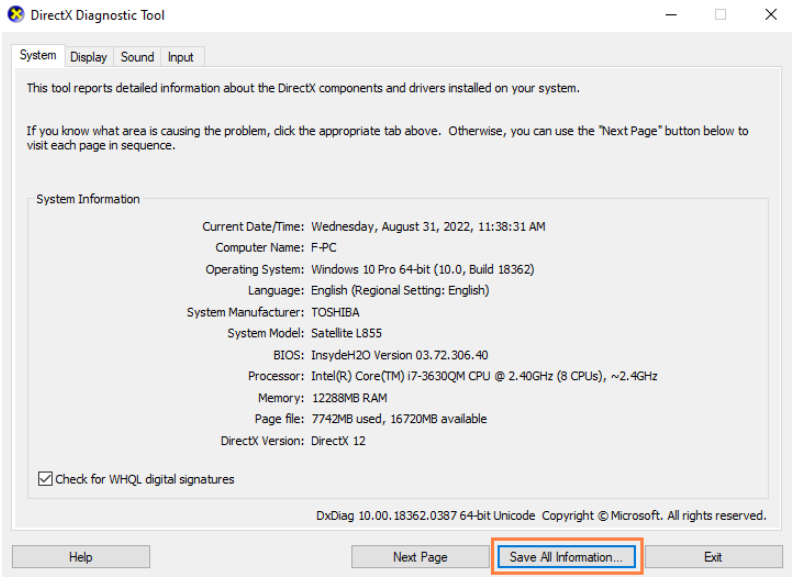
1. Open **Start**.
2. Search for **dxdiag** and click the top result to open the **DirectX Diagnostic Tool**.
3. Click on the **System** tab.
4. Under the "System information" section, check the computer tech specs, including processor, memory, BIOS or UEFI version, system model and manufacturer, Windows 10 version and edition, etc.



5. Click the Display tab.
6. Under the "Device" section, determine the graphics card specifications like name and manufacturer, graphics memory, and display details.



7. (Optional) Click the Save All Information button.

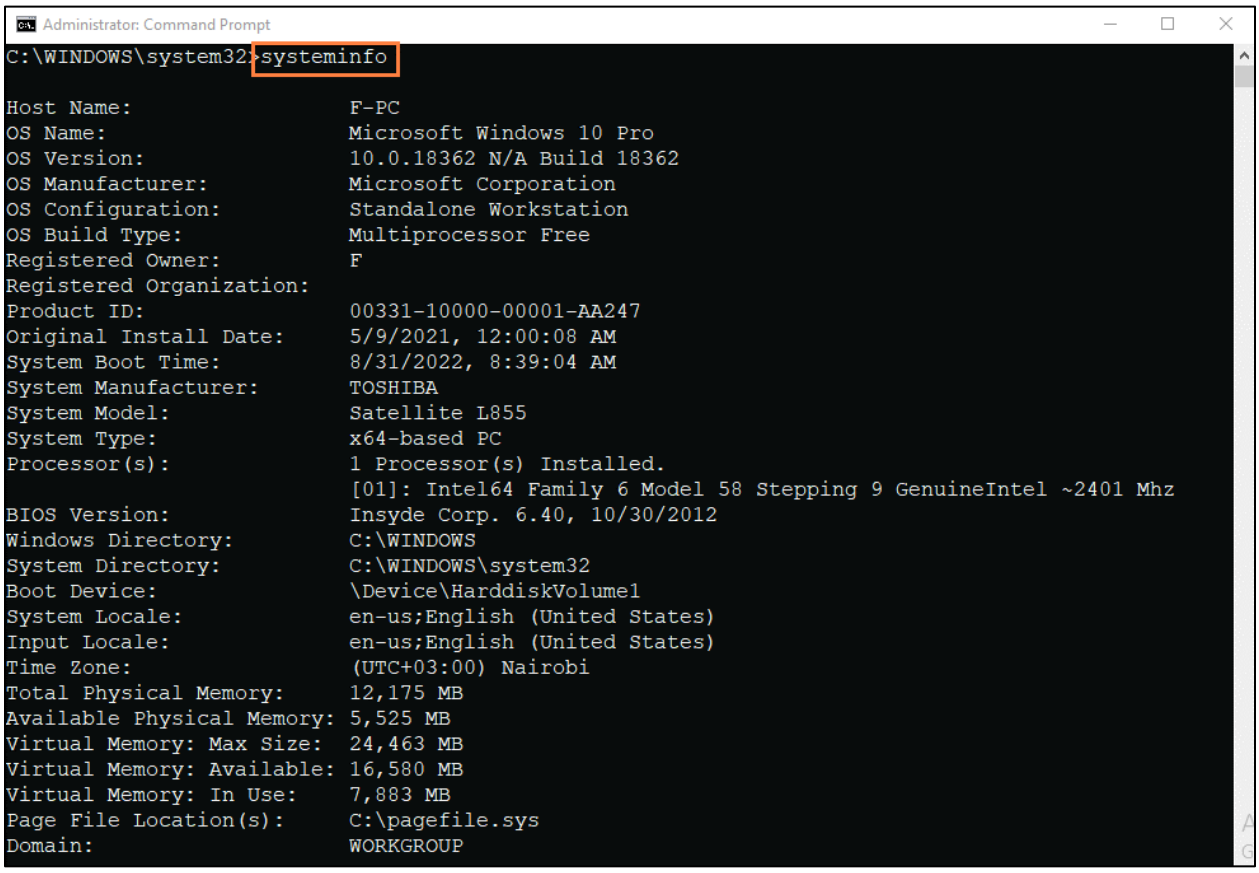


8. Select the folder destination.
9. Confirm a descriptive name for the report — for example, "Windows 10 Hardware Specifications."
10. Click the Save button.
11. Open File Explorer.
12. Open the folder containing the exported information.
13. Right-click the text file and select the open option to view the exported information.

- **Quality Criteria:** Open the text file to review the computer hardware and software details.

Operation sheet 1.5: Find Computer Specs using Command Prompt

- **Operation title**: Find computer specs using Command Prompt
- **Purpose**: To find the computer specs with Command Prompt
- **Instruction**: Use the given step below appropriately. For this operation you have given 10 minutes and you are expected to provide the answer.
- **Tools and requirement**: Computer
- **Procedures in doing the task**
  1. Open **Start**.
  2. Search for **Command Prompt**, right-click the top result, and select the **Run as administrator** option.
  3. Type the following command to find the device specs and press **Enter**: systeminfo
     Quick tip: Use the systeminfo /? command to see the available options using this tool in Command Prompt.



- **Quality Criteria:** Show hardware and software information with command output.

LAP Test 1

Instructions: Given necessary templates, tools and materials you are required to perform the following tasks

Task 1: Hardware inventory.

Create the following table on MS-Word or Excel and fill at list 5 computer inventory information.

Here is the table format for 1 computer:

Hardware			**Brand/ model**	**ID /serial no.**	**Specifications**	**Comments**
System unit type						
Tower	Desktop	Laptop				
Monitor						
LCD	CRT					
Keyboard						
Mouse						
Speakers						
Scanner						
Printer						

Task 2: Software Inventory

Create the following table on MS-Word or Excel and fill at list 3 computer inventory information.

Here is the table format for 1 computer:

Software	**Brand**	**Version / number**	**Comments / restrictions**
Operating System			
Antivirus			
Application 1			
Application 2			
Application 3			
Application 4			
Application 5			
Other			

Unit Two: Store technical documentation

This unit to provide you the necessary information regarding the following content coverage and topics:

- Store software, hardware and equipment not in use
- Storing technical documentation and insure its security
- Accessing and disseminating technical documentation as required by clients.

This guide will also assist you to attain the learning outcomes stated in the cover page. Specifically, upon completion of this learning guide, you will be able to:

- Take action to ensure software, hardware and equipment not in use, stored in a manner.
- Store securely technical documentation.
- Access and disseminate technical documentation as required by clients.

2.1 Store Software, Hardware and equipment not in use

2.1.1. Storage of Basics

Equipment not being used should be stored. It may be **new hardware and software** in boxes, or loose parts, or sensitive materials that need to be stored securely until installed or needed. Valuable items such as memory chips or original software copies may need to be locked in a safe.

An IT store can hold new hardware, spare parts, repaired equipment, extra copies of software, daily and weekly backup copies of files as well as memory chips. It can also hold redundant devices such as printers, modems, cables and tools. While the IT department may also keep contracts, licences and other documents, some companies prefer to keep such documentation in their Legal department (if there is one).

IT equipment is often delicate and expensive. The environment for IT hardware and software storage should be:

- Lockable
- Dust-free
- Static-resistant
- Safe from water and humidity
- Well ventilated and light
- At a constant temperature
- Separated from other perishable stores.

2.1.2. Guidance from technical manuals

Most IT equipment is fragile/easily broken and should be handled with care it can be damaged if not packed correctly in storage. The technical manual that companies equipment will often advise on packing and storage.

It is also advisable to access the website of the manufacturer. Often they update information about equipment on their website, or add additional information on packing and disposing of computer consumables and equipment.

Information from technical manuals needs to be recorded in the inventory for all stock (in storage or being used) such as the expected lifetime of the product. Printer manuals, for instance, will state how many pages can be printed before the toner cartridge or developer needs replacing. Packed

and unopened toner cartridges can be kept for quite some time, but developer has a more limited shelf life.

2.1.3. Storing components, software originals and documentation

All information about storing components can also usually be found in technical manuals. Generally, sensitive components will be stored as follows.

A. Memory chips

Each memory chip should be placed in a foam-protected, anti-static bag. Each bag is then placed in an individual box or in a larger box that will have separate slots for each chip. Memory was once very expensive and always stored in a safe. However, as the cost of memory has fallen, memory is often stored alongside other components.

B. Expansion cards, motherboards and other spares

Expansion cards also must be placed in anti-static bags and each bag then placed in an individual box or in a larger box that will have separate slots for each card. This box is then stored in the storeroom, with care taken, if the box is cardboard, not to place other equipment on top of it. Motherboards and other spares should be kept in boxing so that they are not stacked on one another and also to avoid dust building up.

C. CD-ROM drives and hard disks

CD-ROM drives are stored in stacks on a shelf in the storeroom. An obvious caution to take is that the stack is not too high, as it may topple over. Hard disks should be placed in foam-protected anti-static bags. Each hard disk needs to be stored in an individual box. The boxes can be placed on top of each other in stacks (again, not too high).

D. Software originals

When an organisation purchases software, copies need to be made of all disks. Installation of the software should be carried out with the copied disks and *not* the original. This ensures the security of the original disks, and if there are any problems with the copied disks another copy can be made. The original disks need to be stored in a secure place such as a safe and preferably off site as a form of assurance against any problems within the building, such as flooding from heavy rain or fire damage.

2.2 Store securely technical documentation

2.2.1. Documentation

Documentation, including manuals that come with hardware and software, needs to be stored correctly. Some manuals may need to be kept with the relevant computers if they are used regularly. Generally, manuals are kept in a storeroom or IT library (which may be in the same place). They are only used at times of installation and later on for troubleshooting. They should be indexed in the inventory and labelled clearly on shelves or in cabinets. Documentation such as licensing should be recorded and stored in a safe area, such as a locked filing cabinet. As mentioned, in some larger companies, it may be kept the legal department or in a safe.

2.2.2. Technical documents

Technical information may need to be available throughout the organisation. Some documents will have limited access, some may be found on the open shelves in the IT work area, and others kept in client's offices. In a highly developed business, images of documents can be online via the IT network.

2.2.3. Document control

Working in an IT reference section you might be expected to handle changes to technical users' manuals written by staff in your own IT department. Document control includes withdrawing old versions, disposing of them and issuing updated copies. To do this job efficiently, your records inventory must show who holds copies.

2.2.4. Levels of access and the currency of documents- General access

IT documentation can hold details of flow charts, program code, and technical reports, wiring plans, testing results, measurements and system analysis. These documents need to be sorted and identified with a key number and an emphasis on making the information accessible.
All documents have common requirements, they must be:

- **Available when needed**: As in all human endeavours, time is a constraint in IT; documents must be available on request as most of the time the particular information sought will help decision-making.

- **Easy to find**: In order to retrieve a document (to find a piece of information or update it) efficiently, it must be stored under a classification scheme.
- **Current** (up-to-date): Normally, a document has an owner who is in charge of maintaining it, but in order to update a document, a business process called 'change control' must be followed.

Change control is the process of managing and controlling changes; requested or otherwise. It ensures that all work is justified and that all work requested and approved is completed and tested. In some organisations, no change can be made without an approved change control form.

2.2.5. Valuable originals and document security

Valuable original documents, possibly held in a protected place under the care of IT, may be:

- legal or historical papers
- signed forms
- Tender documents
- Contracts
- Agreements
- Warranties and licences.

These documents need to be sorted, identified with a key number, and filed (with a strong emphasis on security). They need to be accessible on a 'need to know Basis' — this attribute is very important for information in IT documents that is confidential or sensitive and restricted to authorised access (specific individuals).

The objective of document security is to preserve the organisation's information assets and the business processes they support, by:

- **Confidentiality**: where documentation is accessible only to those authorised to have access
- **Integrity**: where accuracy and completeness of information contained in the documents and processing methods are safeguarded
- **Availability**: when documentation and associated assets are accessible by authorised users when required.
- Document and file properties

One simple way to protect a soft copy document is to use the built-in security file features, now common to operating systems. Using this system, every object has a unique owner who has control of and access to it. An object can be a folder, file (document) or a complete network drive. The access provided by the owner can be 'read', 'write' or 'no accesses. Owners can also revoke access to users. Typically, the department or a section within an organization appoints the owner. Normally, sensitive documentation is labeled 'commercial-in-confidence'.

2.3 Access and disseminate technical documentation as required by clients

2.3.1. Accessing stock and inventory

A. Stock

Stock describes the goods that an organization currently holds. For example, if an organization makes computers, they need to keep a stock of hard disks, system boards, network cards, monitors, cabling and so on.

Figure 2. 1 A person checking stock

B. Inventory

Inventory is a list of what you actually have, and a description of it. For example, when you insure the contents of your house you are usually asked to perform an inventory of the contents, in order to calculate how much to insure it for.

Organisations need to keep track of how much stock they have so that they don't run out of stock, as well as for insurance reasons. In addition, once a year all items may be counted manually to

make sure that the computerised stock-control records correspond with what is actually on the shelves, a process known as **stock taking**.

2.3.2. Document control and distribution

In an IT organization or department, the controlled distribution of documentation is of paramount importance.

Levels of security and confidentiality

Security you should always store computer hardware and software in a secure place, in order to prevent theft. Access to a storeroom must be restricted to authorized personnel. Security also means protection against fire, flood, mound and insect pests. You must also make sure that there are real connections between the stored stock and the inventory records. The inventory record of any document should show the security level.

- **High security — valuable originals**

Some documents in the care of IT must be kept safe, perhaps in their original condition. They may hold trade secrets or confidential information. Some documents are held in a form that is liable to damage and must be kept in a secure area, not to be removed, with even authorised people only able to access copies or images of them.

- **High security — critical information and fragile media**

Original documents that may have a critical value, or be recorded on a fragile medium such as tape, should not be allowed to leave their secure storage place. Only copies should be taken out.

- **Medium security — sensitive and restricted material**

Some records contain sensitive material, and may not be seen by all employees. Each document and each authorised user of a system should be assigned a security level. Unauthorised people can be denied access to the whole system. If a person’s security level were lower than the security level of a document or record, access would be denied.

- **Low security — general access required**

Other documents might hold knowledge that is critical to the workings of IT equipment, but copies or images can be freely distributed, so long as the version of the document is clearly marked, and the reader has the necessary authority.

- ✓ **Hard copy documents**

If a document is in hard copy, and the user is authorized to access it, the lender's details can be recorded in a simple database to keep track of it.

- ✓ **Soft copy documents**

Distribution can be made secure and tracked by granting access to only the appropriate documents (by pre-determined levels of security) and by sending documents by email and filing/registering a copy of the email.

If the customer is off site, the email attachment must be in a compatible format. In the case of intranet html documents, usage can be tracked by the number of times that the page has been accessed, and privileges can be allocated of access needs to be restricted.

- ✓ **Reporting, auditing and archiving documentation**

Your manager could ask you for a report on who has been using the technical documents listed in the index or inventory. You may need to show what's been added, what's been deleted, or transferred. You may be asked to extract from your index or inventory a summary of who has borrowed books, or taken, or even read various documents.

Technical records need regular auditing. You may be called on at intervals to check records and manuals. If so, you would look for items missing, damaged, misplaced, borrowed for too long, or materials that are out of date.

Some documents have to be kept, by law, for a certain amount of time and should be archived. Records or books that have not had any activity for a while can be transferred to archives, freeing up valuable space.

Self-check-2

Test-1 Short Answer

Instruction: write short answer for the given question.

1. List environment for IT hardware and software storage. (at least 3 points)
2. What is the need of technical documentation inventories of hardware and software?
3. List the kinds of valuable original documents, possibly held in a protected place under the care of IT.
4. Explain the difference between confidentiality, Integrity & Availability in a document security.
5. What kind of IT equipment's can be stored in the stock?

Unit Three: Assess quality of receive articles

This unit to provide you the necessary information regarding the following content coverage and topics:

- Final product in workplace standards
- Measuring materials, articles or products using appropriate measuring instruments
- Identifying causes of any identified faults and taking corrective actions in workplace procedures

This guide will also assist you to attain the learning outcomes stated in the cover page. Specifically, upon completion of this learning guide, you will be able to:

- Check received materials, articles or final product against workplace standards.
- Measure the materials, articles, or products using appropriate measuring instruments.
- Identify and correct the causes of any identified faults in accordance with the workplace procedures.

3.1 Final Product Against Workplace

3.1.1. Overview

Technological advances have made computers an important part of every workplace. Many companies store valuable data on computer systems, databases and networks, and most workplace communication is done using computers and networks. Although computers allow businesses to streamline processes, distribute information quickly and stay competitive, it also allows the potential for security issues that can ultimately affect business operations and integrity.

- **Benefits**

Because most data is stored on computers and almost all communication is done on an organization's computer network, the security of the data is crucial for the success of an organization. Monitoring workplace computers can be done using a variety of software products that monitor computer networks. This software can also be used to monitor or track employee activity and productivity as well. This ensures data is secure by using the software to block certain websites, alert information technology staff of potential threats, such as computer viruses, as well as monitor computer and Internet usage by employees.

- **Effects**

Monitoring workplace computers can secure data stored on computer systems, as well as ensure employees are using workplace computers for business purposes. Some monitoring software comes highly recommended at a reasonable cost and can be customized to an organization's needs. This requires some additional efforts by management or information technology staff, but proves it's a valuable tool to ensure the security of business data and integrity. Although computer workplace monitoring has become a necessity, employees often don't understand the reasons for computer monitoring and may feel violated or micro-managed.

- **Considerations**

When considering using computer monitoring software in the workplace, do extensive research on different products and services. Although some software is costly, it may be worth the investment to protect the integrity of a business. If an organization decides to use this software--inform employees. Allow employees to see the software and its capabilities by demonstrating its features in a group setting. Be open and honest regarding how the software will be used and how it will

add security to the business. Talk to employees about their rights regarding computer monitoring. The Texas Workforce Commission has policies for workplace computer monitoring and employees should be aware of those policies. Also allow employees to ask questions in a private setting if they wish.

3.2 Using appropriate measuring instruments

If you've shopped around for just the right desk for your space, but haven't found exactly what you're looking for, consider building your own. Counter top desks are a unique way to modify your work area. Whether starting with a brand new section counter top, or repurposing old counters after a remodel, counter top desks make a sturdy addition to your office furnishings. A moderately simple do-it-yourself project, building a counter top desk is considerably less expensive than having a custom desk built, and requires less than one day's work to complete from start to finish.

- **Instructions**
  - ✓ Make a space plan and measure the area where the desk will sit to ensure the right fit. Decide whether the desk will be straight or a corner unit, and how the desk will be supported, and plan accordingly. Straight desks are a simpler project, but corner units afford more workspace and often allow for the best use of the available area.
  - ✓ Purchase supplies for the project, including counter tops, support system, and any brackets that may be required. Counter top can be cut at the time of purchase, or ordered to fit, so be certain to have exact measurements to ensure a correct fit without further cutting. Collect all tools needed for the project before beginning.
  - ✓ Prepare your support system before assembling your desk. The simplest support solution is to use kitchen cabinets, metal filing cabinets, or sturdy plastic or medal drawers. This will make your desk both sturdy and easy to move and requires no tools, cutting, or drilling. This support solution is particularly idea for granite, metal, or stone counter top materials which are difficult to cut or drill.
  - ✓ Install the chosen support system, ensuring that it is both the proper height, and level, before applying counter tops. If you've chosen cabinets or other form of freestanding support, be certain they're positioned at appropriate intervals to support the weight of the counter top.

- ✓ Affix the counter top to the support system one section at a time. If your counter is a heavy material, such as granite or stone, be certain the support system is sufficient to harbor the weight before applying the next section of counter. Once all sections of counter are installed, use a level to check that there the desk is even and level.
- ✓ Apply the end cap finishing kit where necessary and add any brackets that might be required to anchor the counter top. This step is optional but may be necessary to ensure your desk is both attractive and stable.

3.3 Identifying all potential failure causes

When confronted with a systems failure, there is often a natural tendency to begin disassembling hardware to search for the cause. This is a poor approach. Failed hardware can expose precious information and safeguards are necessary to prevent losing that information from careless remove procedures. One must know what to look for prior to disassembling failed hardware.

Faults that come and go are the worst ones to track down, since just when you think you know the cause of the problem and intend to do something about it can disappear, leaving you wondering whether or not it's cured.

The most serious random problem is a spontaneous reboot, which can be caused by a faulty, bad mains interference, or overheating, particularly of the CPU. This is often caused by failure of the CPU fan, but this is easy enough to check -- just open up the case and see if the fan is still spinning. If your cooling arrangements are not broken but simply insufficient (this can happen, particularly in the case of Athlon processors, which generate a lot of heat), you'll need to upgrade your CPU heat-sink and/or fan to bring its top temperature down to a more sensible level.

However, your computer is most likely to go wrong when you've just changed something, for instance when you've installed a new stick of RAM, a soundcard, hard drive, or a new CPU. Even though this may work perfectly well, you may have disturbed one of the cables inside your PC at the same time, giving you a completely unrelated problem; or if you've been overclocking your CPU, it may stop working when a new PCI card is installed.

- **Power Supplies**

If your PC won't boot up, no LEDs illuminate on the PC's front panel, and you can't hear your hard drives or cooling fans spin up, you may have a problem with your mains supply, or a faulty or

dead computer PSU (Power Supply Unit). Faulty power supplies can also cause random reboots: these can also mean that your power supply is working properly but is under such a heavy load that occasionally the voltages sag a bit, or even collapse.

- **BIOS Beep Codes**

If the power supply is working, booting your PC will light the front panel-power LED and let the BIOS perform a Power-On Self-Test, or POST. This initializes system hardware; tests RAM the keyboard, serial and parallel ports, initialize the floppy drive and hard disk controller, and diagnose any basic problems. If none are found, you'll get one short beep from the internal PC speaker. A combination of long or short beeps signifies a problem, and in most cases your PC will refuse to carry on. Although many 'beep codes' are similar from motherboard to motherboard, you really need to refer to the manual to find out what each sequence of beeps signifies.

- **Cable Issues**

Another source of sometimes weird hardware faults is internal cabling. For instance, if the IDE cable connecting your motherboard and hard drive is not inserted correctly, your drive may not be detected by the BIOS at all. One of the conductors on all IDE cables will either be colored red or have writing printing on it, so make sure these identification marks match up with pin one on your hard drive, and pin one on the motherboard socket.

- **Summary on How to Fix and Avoid General Protection Faults**

  If you usually get a general protection fault when your computer has been running for a certain length of time, then overheating is a likely cause. You may have to reduce the level of over clocking or replace a fan that isn't working. When the problem occurs after the addition of new memory, remove or replace it to see if this cures the problem. If you can't do any of this yourself, get an engineer to do it for you.

  ✓ When the fault always occurs soon after turning on your computer, it may be caused by a driver used by one of the programs that loads at start up or by Windows itself. You can try a Windows install but choose the repair option, which will fix corrupt or missing files without losing your data or programs. If the fault always happens when a particular program is running, uninstall and then re-install it. Also, check the supplier's website for a later version of the program or drivers and install them.

- ✓ Actually finding the cause of the general protection fault can be a time-consuming process and you can speed this up by using a tool that will automate the task. One of the best I've found for this is Registry Patrol, which, despite its name, does much more than just sort out the PC's registry. It will, in fact, undertake a deep scan of the whole computer, sorting out all the drivers and DLLs that are the most likely cause of general protection faults. As a bonus, it will also fix all types of other problems so that you end up with a machine that starts quicker, runs better and is less likely to crash.
- ✓ Registry Patrol comes with a guarantee that it will do what it promises and is available to try as a free download from the company's website (www.registrypatrol.com). Once you've installed it and run the scan, your PC will run as it did when it was new and general protection faults will be a thing of the past.

Self-check-3

Test-1 Short Answer

Directions: Answer all the questions listed below.

1. What is the use of finalizing product against workplace?
2. What are the five instructions using appropriate measuring instruments?
3. How do you identifying the potential Failure on power supply?
4. How do you identifying the potential Failure on cable?

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