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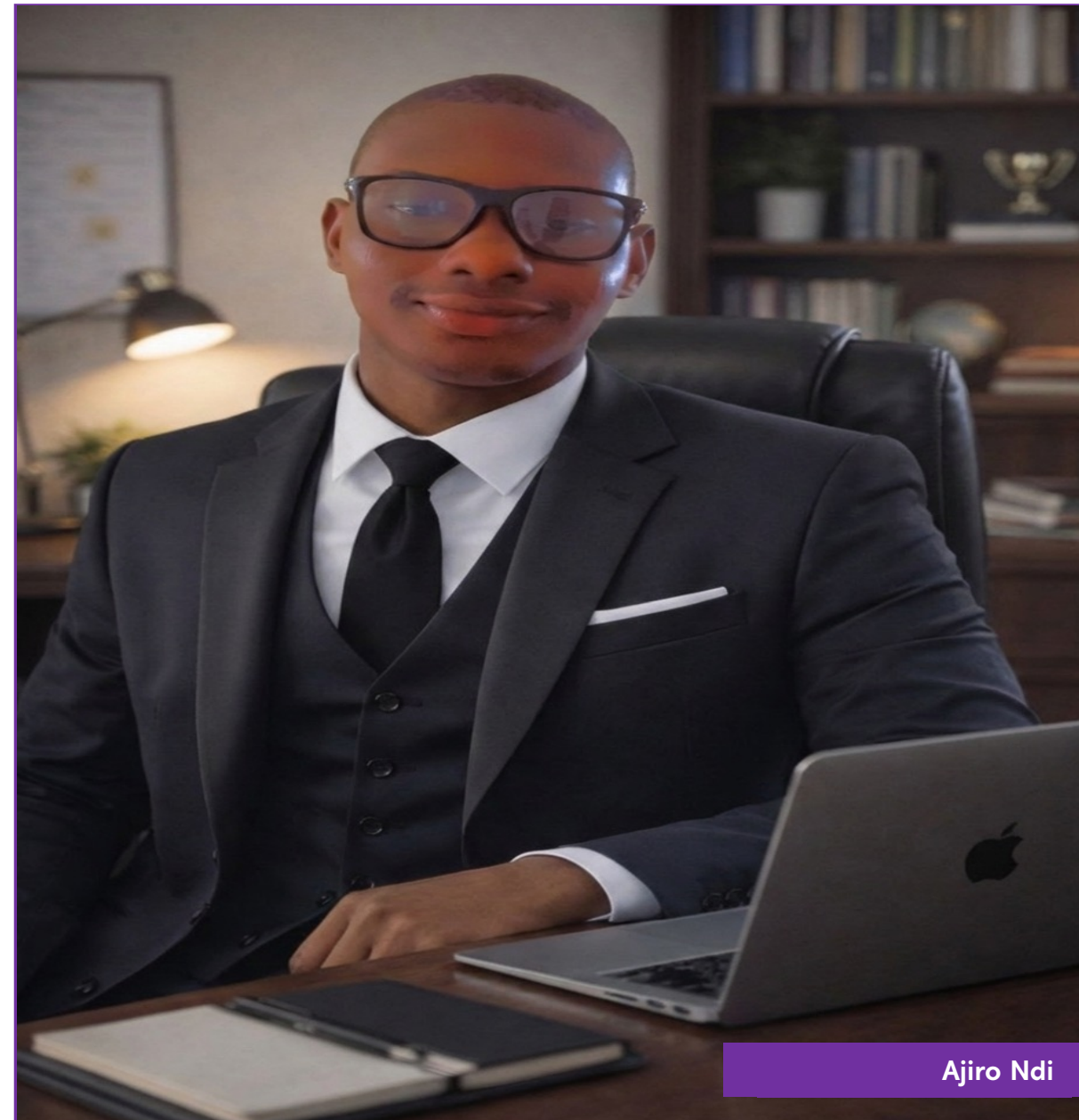
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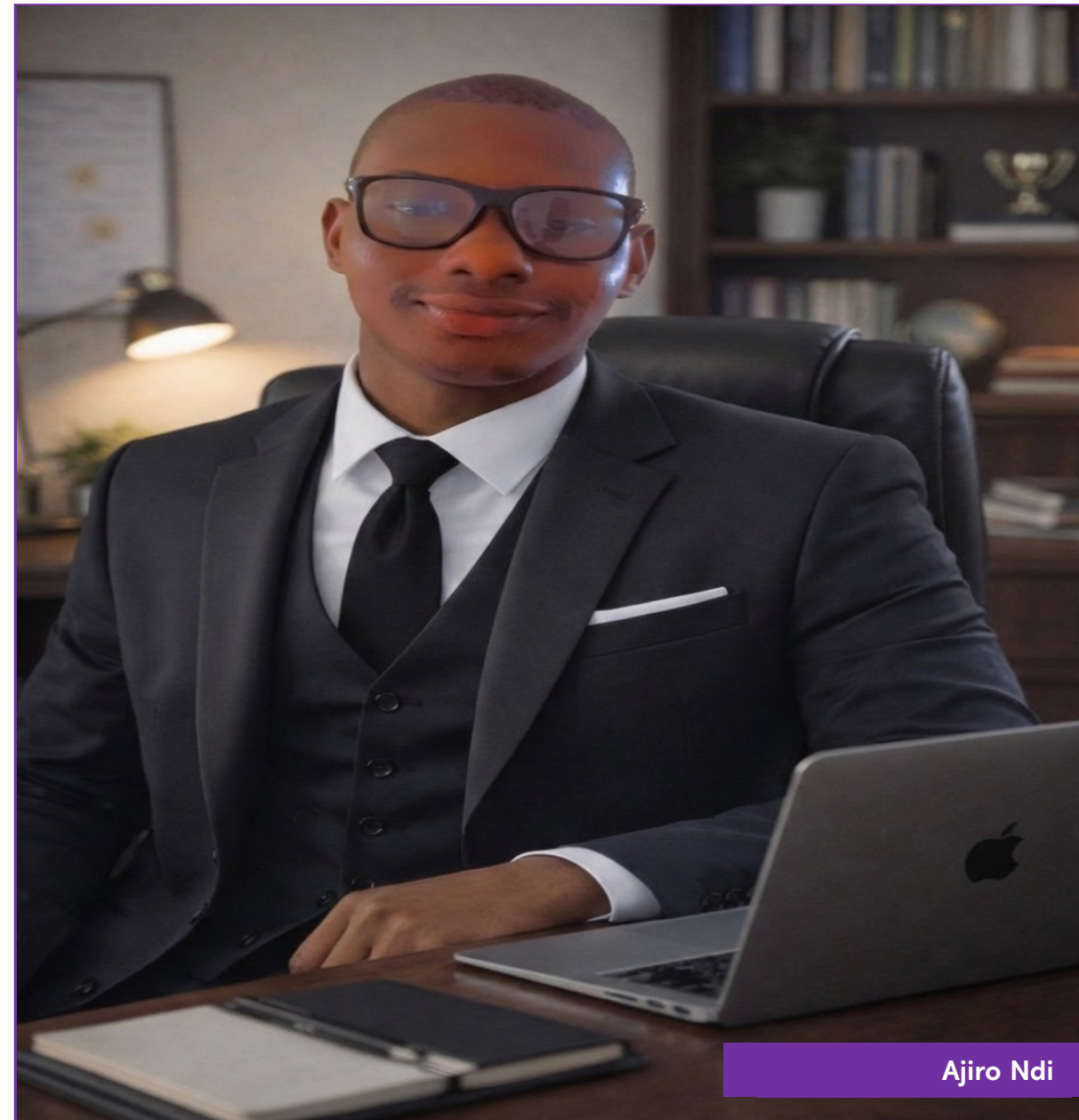


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Chapter 12
13



Ajiro Ndi

Practice Questions and Answers

Q1a

Complete the following sentences.

The physical components of a computer are known as

Hardware

Internal

(Found inside the Computer)

- RAM
- ROM
- Sound Card
- Graphics Card
- Processor

External

(Found outside the Computer)

- Monitor
- Keyboard
- Mouse

Chapter 1: Types and Components of Computer Systems

Practice Questions and Answers

Q1b

The programs for controlling the operation of a computer are known as

Software

Application Software: provides the services that the user requires to solve a specific task e.g. Word processing, Spreadsheet, Database Management System, apps and applet

System Software: provide a platform on which other software can run e.g. Operating System, Compilers, device drivers, utilities

Chapter 1 - Processing data.

Practice Questions and Answers

Q2a

Chapter 1: Analogue and Digital data

A student is making a recording of his voice for a podcast.

Explain how the student's voice could be recorded on a computer.

- The student Speaks into a microphone
- The microphone Converts Sound waves into analogue electrical Signal
- An ADC (Analogue-to-Digital Converter) Converts the analogue signal into digital data
- The digital data is stored into a file on Secondary storage (SSD)

ADC - processor - DAC - Actuator / Motor

Chapter 2: Input and output
Input - microphone
Output - Computer

Practice Questions and Answers

Q2b

Analogue and Digital data

When his voice has been recorded, the student wishes to listen to it.

Explain the computer processes that enable the student to listen to the recording of his voice.

- The digital audio file is retrieved from the Secondary storage
- A DAC (Digital-to-Analogue Converter) Converts the digital data into analogue Signals
- The analogue signal is sent to Speakers or headphones
- The Speakers Converts the electrical Signals into Sound waves

ADC is used when recording
DAC is used when playing back

Practice Questions and Answers

Q3a

— Read Only Memory — Chapter 1: Types and Component of Computer Systems

ROM is a type of internal memory in a computer.

State **one** other type of internal memory.

Random Access Memory

RAM

Practice Questions and Answers

Q3b

State **two** characteristics of ROM.

- 1..... Non-Volatile memory
 - 2..... Contents cannot be changed thereby making it read only
- Stores BIOS instructions
- Basic Input and Output System

Practice Questions and Answers

Q4

— Chapter 1

CLI

DBI

A computer system can use command line interfaces or dialogue based user interfaces.

— Similarities and Differences

Compare a command line interface with a dialogue based user interface.

Similarities

- Both allow the user to Communicate with the Computer System
- Both enable user to enter Commands or Instructions
- Both act as an interface between the user and the operating System
- Both provide feedback or responses to the user after instructions are entered

Differences

- For Command, the user types Commands while for Dialogue, the user answer questions
- Command line uses less memory while Dialogue uses more memory
- The Command line is more prone to errors than the dialogue

Practice Questions and Answers

Q5a

— Chapter 1

Types of Computer

- Desktop
- Mobile
 - ↳ Laptop
 - ↳ Tablet
 - ↳ Phablet
 - ↳ Smartphone

A student is studying the quality of water in a river. The student can analyse the data using a tablet computer or a smartphone.

Chart / Spreadsheet

Explain why a tablet computer is better than a smartphone for collecting and analysing the data from the river.

- A tablet has a larger Screen, making data easier to view
- The larger on-Screen Keyboard makes data entry easier
- Easier to read results while working outdoors
- Easier to use Spreadsheets and other data analysis Software
- Graphs and Charts are easier to analyse

Practice Questions and Answers

Q5b

The student can collect the data using sensors or collect the data manually and then type it into the tablet computer.

— chapter 2 : Input and output

Discuss the benefits and drawbacks of using sensors to collect the data.

Benefit

- Data Can be Collected automatically
- Data Can be Collected Continuously
- Reduces human error
- More accurate and Consistent readings

Drawback

- Faulty Sensors can give Spurious results
- Most Sensors are analogue, therefore requires using an ADC
- Requires power Source

Practice Questions and Answers

Q5c

— chapter 4: Networks and the effect of using them

The data collected from the sensors can be stored on the cloud.

State why the data is stored on the cloud rather than being stored on a portable solid-state drive.

- Data Can be accessed from different locations
- Data Can be accessed by multiple devices or users
- Reduces the risk if the portable Solid state drive is damaged or lost
- Easy sharing the collected data
- Storage Capacity can be increased easily
- Automatic backup may be available

Practice Questions and Answers

Q6a

— Chapter 8: Safety and Security

A computer contains both anti-virus software and anti-malware software.

Explain the differences between anti-virus software and anti-malware software.

- Anti-virus Specifically detects and remove viruses
- Anti-malware detects and removes a wider range of malicious software
- Anti-malware Can detect spyware, ransomware, trojans and adware
- Anti-virus is a subset of anti-malware protection
- Anti-malware provides broader protection than anti-virus software

Practice Questions and Answers

Q6b

— Chapter 8

Explain why both anti-virus software and anti-malware software are needed in the computer.

- Anti-virus software alone may not detect all forms of malware
- Reduces the risk of infection and data loss
- Using both provides more comprehensive protection
- Different threats use different attack methods

Practice Questions and Answers

Q7a

— chapter 5: The effect of using IT

Prolonged use of a computer can result in many health issues.

One of the health issues is repetitive strain injury (RSI).

(i) State **two** possible causes of RSI.

- 1 *Continuous use of the keyboard*
- 2 *Continuous clicking of the mouse or repetitive mouse movements*

Practice Questions and Answers

Q7a

— chapter 5

(ii) State **two** possible strategies for the prevention of RSI.

- 1 *Use ergonomic keyboard / mouse*
- 2 *Take regular breaks*
3. *Make proper use of a wrist rest when using a mouse or keyboard*

Practice Questions and Answers

Q7b

— chapter 5

Back problems are a health issue.

(i) State **two** possible causes of back problems when using a computer.

1 *Sitting for a long period*

2 *Poor posture while sitting*

Practice Questions and Answers

Q7b

— Chapter 5

(ii) State **two** possible strategies for the prevention of back problems when using a computer.

1 *Use an adjustable chair with back support*

2 *Use foot rests to reduce posture problems*

Practice Questions and Answers

Q8

— chapter 6: Communication.
— Voice Over Internet Protocol

A company is phasing out its landline telephones and replacing them with a VoIP system.

Describe the benefits and drawbacks of using a VoIP system.

Benefit

- Lower Call Costs
- Can be used anywhere with internet access
- Easy to add new users
- Support file sharing and messaging

Drawback

- Requires Internet Connection
- The quality of the call depends on the bandwidth
- Delay / latency can occur

Practice Questions and Answers

Q9

— chapter 1:

State **two** types of extended reality.

1. Augmented reality
2. Virtual reality
3. Mixed reality

Practice Questions and Answers

Q10a

— Chapter 10 : Communication
— forum

The principal of Tawara University is considering setting up a group on social media to communicate with students. Social media has both benefits and drawbacks.

Describe the benefits to the university of using social media in this way.

Benefit

- Messages can be sent instantly to many students
- Information can be distributed quickly during emergencies
- Students can interact and provide feedback
- Information can be updated in real time
- Large numbers of students can be reached simultaneously
- Students can receive updates anywhere with internet access

Practice Questions and Answers

Q10b

— chapter 10

The university is considering employing a communications manager to monitor the messages placed on its social media.

Explain why this may be necessary.

- To monitor inappropriate or offensive posts
- To remove false or misleading information
- To respond to student enquiries
- To ensure information published is accurate
- To identify cyberbullying or abusive behaviour

Practice Questions and Answers

Q11a

— Chapter 4:

- LAN
- WLAN
- WAN

The internet is a type of Wide Area Network.

Describe the characteristics of a Wide Area Network.

- Covers a large geographical area
- Connects computers or networks in different locations
- Data is transmitted over long distances
- often connects multiple LANs together

Practice Questions and Answers

Q11b

— Chapter 4

State **two** other types of computer network.

1. LAN (Local Area Network)
2. WLAN (Wireless Local Area Network)

Practice Questions and Answers

Q12a

chapter 7

Tawara Books sells books either as an online version or a physical version. Each book has a five-digit book number and each customer has an eight-digit customer number. Tawara Books uses a database system which contains information about the books it sells.

Each record contains the following data:

Book title, Author, Book number, Type of book (online/physical), Date book sold, Customer number.

— chapter 7: SLC Design

Design an appropriate online data entry form for one book.

Clearly indicate the amount of space required for each field. Your design must represent a tablet screen and, where appropriate, allow the user to enter data by clicking the mouse button rather than typing in text.

Practice Questions and Answers

Q12a

TAWARA BOOKS DATA ENTRY FORM

Book title:

Author:

Book Number:

Type of book: ☐ online
☐ Physical

Date book sold: DD/MM/YYYY

Customer Number:

Practice Questions and Answers

Q12b

Chapter 7

01/02/2025

An example of the data stored in the Date_book_sold field is: 25/02/2025.

Validation checks can be carried out on this field.

State **two** validation checks that could be carried out on this field.

1. Format Check
2. Range Check

Practice Questions and Answers

Q12c

Chapter 7 : SLc - Analysis

Before the new system is designed the current system must be analysed.

State **two** research methods used in this analysis.

1. Observation
2. Questionnaires
3. Interviews
4. Examination of existing documents

Analysis stages – Researching the Current System

- Identification of input and output
- What processing takes place
- Problems with the Current system
- User requirements for the new system
- Information requirement
 - Identifying the hardware and software

Practice Questions and Answers

Q13

— Chapter 6: ICT Application

Explain what is meant by Computer Aided Learning (CAL).

- use of Computers and software to support the learning process
- it allows learners to work through educational materials, tutorials, simulations, assessments at their own pace
- it provides immediate feedback and interactive learning activities

Practice Questions and Answers

Theory

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