**Module 1.4**

1. What is the registry and how does it distinguish Windows and Linux?

centralized database storing system and application settings

from Linux, which uses **text-based configuration files** stored in directories like /etc/

2) What term is used to describe terminating a process that is not responding

to user input?

**"killing"** the process.

3) Why might you use the Services snap-in to manage background processes

rather than Task Manager?

more control over background processes, allowing you to configure startup types, manage dependencies, and set recovery options

4) The Task Scheduler allows you to run a process automatically in Windows.

What is a widely-used Linux equivalent?

cron

1. What part of the system memory setup is most user-configurable?

Pagefile / virtual memory

6) What two things are configured on a disk to make storage space on the

disk available to the Windows OS?

Partitioning and file system type

(e.g., NTFS or exFAT)

1. What is a CLI?

Command Line Interface

8) What protection feature in Windows is designed to prevent a script or

software from making unauthorized changes to the OS configuration?

User Account Control (UAC)

1. True or false? A standard user cannot change their own password.

False

**Module 2.1**

1. Which notation system supports presenting the largest numbers using the

fewest digits: Binary, Decimal, or Hexadecimal

**Hex**

1. What is the decimal number 75 in binary and hexadecimal

**Binary = 1001011, Hex = 4B**

**128 + 64 + 32 + 16 + 8 + 4 + 2 + 1**

**1 0 0 1 0 1 1**

75 / 16 4 = 11 B

= 4

4B

1. Which data type provides for whole numbers only? **Integer**
2. What is the difference between the char and string data types

Char hold the data of a single character, while string hold a collection of char (chatacter)

1. Which data representation format can encode the widest range of

characters? Unicode

1. What type of legal protection could be obtained for a novel software

algorithm? Patent

1. What data protection technology could you implement in order to restrict

the type of activity that users could employ on digital products that they

have purchased or rented? Digital Right Management (DRM) - protect digital content

1. What part of the process of data analytics is most closely supported by

meaningful reporting? Data correlation

**Module 2.2**

1. What compatibility information should you confirm before installing a

software application? System requirement

1. Following installation of a program written for an older version of Windows,

you receive an alert that it might not have installed correctly. What feature

could you use to make the program run correctly? Use **Compatibility Mode** to run the program as if it were on an earlier version of Windows

1. Why would Windows prompt you to enter a password if you try to install a

software application? UAC, only system admin can install programs

1. Windows comes with web server software but it is not enabled by default.

How would you install this software? **Control Panel > Programs > Turn Windows features on or off**, then enable **Internet Information Services (IIS)**.

1. Following installation of an application, another program on your computer

has stopped working. What could you do to try to fix it? Go to help or about, button to troubleshoot maybe reinstall

1. Why might one of your first tasks on receiving a new computer be to

remove software applications?

New computer pre-install with software that we don’t need

1. In order to obtain support, the software vendor wants to know the

application's product ID. How would you locate this information?

- **Control Panel > Programs and Features**, right-click the application, or check **Help > About**

- Go to program properties, then details tab

1. What is the difference between freeware and open source software?

- Freeware (free to use, but source code is not public)

- Open source (free to use, source code is public)

1. What type of software would you use to configure a server by connecting to

it over the network? **remote administration tools** like **SSH clients (e.g., PuTTY)**, **Remote Desktop**

1. What type of software manages tasks, dependencies, and timelines?

- Microsoft Project, Trello, Jira, Asana

**Module 2:3**

1) What shows the structure of code without using the specific syntax of any

one language? Pseudo code

1. What is an interpreted language?

No need to compile into excutable

Convert to machine code during run time

Slower compared to compiled language

1. How is a markup language differ from a compiled language?

Is not a programming language, it is a code to store data so it can be read easily by the proram like HTML language

1. What are constants and variables examples of?

Constant value of PI

Variable first\_name

1. What type of programming concept allows for a variable size container?

Identifier or Container

6) You want to check whether a condition has been met, and if it has, perform

one action. Otherwise, you want your program to perform a second action.

What sort of programming operation would help achieve this?

If statement, conditional statement

1. In a program, what does a loop do?

Run block of code repeatable, stop only if a certain condition is met

1. What is the difference between a procedure and a function?

Procedure is a set of instruction

Function - break the procedure into chuncks

1. What three things define an object?

Class, method, attribute, properties

10) What three scripting options are commonly used in Windows 10 to perform

administrative tasks?

Batch script CMD, powershell script, Windows Host scriptVBA script

11) True or false? You do not need to install a web application to your

computer; it would be accessed via a browser.

True

12) What is the advantage of a local network hosted application, in terms of

data storage?

Data is not store locally, stored in central server

1. What are the structural elements of a database table?

Table name, Fields (column), record (row) , Data type, Primary key (Constraint)

2) What term is used to describe selecting and viewing information in a

database?

Querying to database

3) How does an RDBMS such as Microsoft SQL Server differ from Microsoft

Excel when used to store a dataset?

Can handle million of data

Concurrent access

Field need to enter specific type, data validation

Can create multiple tables

Access control

4) What language is usually used to request data from an RDBMS such as

Oracle? Structured Query Language SQL

1. What is it that defines the relationship between tables in an RDBMS?

Foreign key

1. Give an example of unstructured data.

Word doc

1. Give two examples of semi-structured data stores.

XML & JSON

8) Is an INSERT statement an example of a definition or manipulation

language statement?

Data Manipulation Language (DML)

9) You need a development environment with a library of database functions.

What type of interface are you using? 3-tier

**Application Programming Interface (API)** or **Database Development Environment**

10) How can a client-server application architecture be described if there is the

potential for the structure of the application platform to be developed

further?

**Module 3.1 System Component**

1. What type of component provides persistent storage?

HDD - hard disk drive SSD - solid state drive

2) What computer component is most restrictive in terms of determining

upgrade potential for a desktop computer?

Motherboard

1. True or false? A plug-in card is always required to support PC sound.

False - the motherboard chip already provide that

1. What is the main advantage of using a CPU in 64-bit mode?

Can address more memory

1. What is a typical speed for a modern CPU to run at?

2Ghz to 4Ghz

6) You want to purchase a computer with a fast graphics interface. What type

of expansion slot should you look for?

PCIe slot

1. What type of component provides a passive cooling solution?

Heatsink

1. How would you access the system setup program on a PC

Through BIOS or UEFI (Del, F2, Esc)

**Module 3: 2**

1) True or false? Mice and keyboards must be connected to a computer via

PS/2 ports. False - they can also be connected via usb and bluetooth

1. True or false? USB cables have the same connectors at either end.

False. sometimes

3) A user has two USB drives connected to her PC. She complains that when

she copies large files to both drives at the same time, it seems to take

much longer. Why might this be?

Using lower USB version USB 1.1 or 2

=> The drives are likely sharing the same USB controller or bandwidth

4) You want to purchase a flat-panel monitor that can show widescreen

movies. You are considering models with native resolutions of 1400x1050

and 1920x1200. Which should you choose?

1920x1200 movie usually display 16:9 ratio

5) True or false? HDMI is the only type of display interface that supports High

Definition picture resolutions.

False - We also have display port and thunderbolt

6) You are considering buying a new display device. The model you are

considering accepts digital inputs only. Your computer's graphics adapter

has a blue port with 15 holes. Would this flat-panel be a wise purchase?

Yes, VGA support digital and analog single

=> No (The blue port is VGA, an analog signal; it’s incompatible without a converter)

7) You need to configure settings for an input device. What should be your

first step?

Know the device name

Control Panel > Device & Printer > Setting > Devices

8) A friend is asking for your help in using her computer. When he presses the

key marked @, a different symbol appears. What could be the cause?

Press shift + @ key

The keyboard layout/language is set incorrectly (e.g., UK vs. US layout)

9) What type of mouse would you recommend for someone who uses their

computer principally to play computer games and why?

Laser mouse ? gaming mouse - better precision