Y12 - 13

Cambridge Technical Introductory Diploma in IT

Summer Independent learning

Unit 19 Computer Systems Software

LO1: Understand different software installations and their purpose

	Pass	Merit	Distinction
1. Understand different software installations and their purpose	P1: Explain the purposes of different systems software	M1: Compare the features and functions of different system software	
	P2: Outline the different application software available for end users		
	P3: Describe the reasons for carrying out software installations and upgrades		D1: Assess different types of software installations

Read the instructions carefully and complete all work to a high standard using references from your research where appropriate. You **cannot** copy and paste from the internet, AI or from textbooks.

You will submit three files from this SIL work in the assignment named **"SIL Task 2025"** before your first lesson back in September:

- **Presentation** (Task 1, Task 2) - (P1, P2)
- **Comparison Report** (Task 3) – (M1)
- **Technical Report** (Task 4, Task 5) - (P3, D1)

Compulsory – must do!

Task 1: A presentation – P1
You need to produce a PowerPoint Presentation, which explains the different types of system software in the list below. This should include screenshots of each type with examples and explain what it is for / does.

- **Operating systems (open and closed):**
  This system software allows us to use our computers. Windows and Linux are examples.

- **Utility programs**
  This system software is designed to analyse, configure, optimise, maintain and protect our PC. Defragmentation, file conversion, firewalls are examples.

- **Library programs**
  This is a collection of programs and subroutines that are stored for immediate use in programming. Examples of libraries include: Pandas, Random, Tkinter, Numpy, Requests, Flask, Django.

- **Translator software (NOT FRENCH TO ENGLISH – a computer language translator)**
  Translator software converts a program written in one programming language into a different computer language. You should cover compilers, interpreters and assemblers.

Compulsory – must do!

Task 2: A presentation – P2
On the **same presentation**, create a series of new slides that outlines the different application software that is available for end users.

For each of the categories below, explain the purpose of that type of software. You should then find your own example of an application that fits into each category of software and explain the purpose of that specifically.

Categories of Application:

- **general purpose**
- **special purpose**
- **bespoke**

Compulsory – must do!

Task 3: A comparison report – M1

Produce a report that compares the features and functions between the following operating systems:

- **A Windows version of your choice** – see list https://www.lifewire.com/windows-version-numbers-2625171
- **A Linux Distribution of your choice** – see list https://en.wikipedia.org/wiki/List_of_Linux_distributions
- **A Mac OS X version of your choice** – see list https://www.macworld.co.uk/feature/os-x-macos-versions-3662757/

You should consider comparing the 3 operating systems in the following areas:

- Open / Closed source
- Cost
- Amount of users
- Type of user
- Default applications
- Features
- Security

Compulsory – must do!

Task 4: A technical report - P3

You should prepare a report that describes the reasons for carrying out each of the software installations and upgrades found below. The report should include a description of each of the reasons below using examples to explain why each would be necessary.

Imagine you have a user who is unwilling to upgrade and update their PC software as they do not see the benefit. You should use the following reasons to convince them why it is a good idea. Make it a persuasive piece of writing.

Reasons for installation or upgrade, i.e.:

- **improvement to system** (e.g. stability, performance, security, productivity)
- **resolve issues** (e.g. viruses, conflicts etc.)
- **address risks** (e.g. loss of data, loss of service, system downtime, costs)
- **security risks** (e.g. prevention, rectification)
- **access to additional features/functions**
- **support installation of new hardware**
- **address end user requirements**

Compulsory – must do!

Task 5: A technical report – D1

The following are all methods of installation:

- **creating image/ghosting (e.g. make a copy of the hard drive configuration and software)**
- **unattended installation**
- **upgrade**
- **clean install**
- **repair installation**
- **multi-boot**
- **remote network installation**
- **image deployment**

For the **second section of the report** you must assess **five** of the different types of software installation featured above.

The discussions should include a variety of ideas and arguments as to why certain types of software installation are more appropriate than others.

You should include examples of where and how they are used. Research these strategies for more information, ensuring all work is in your own words.

Summary of SIL:

- **Presentation** (Task 1, Task 2) - (P1, P2)
- **Comparison Report** (Task 3) – (M1)
- **Technical Report** (Task 4, Task 5) - (P3, D1)

Ensure this is completed and submitted within the assignment named **"SIL Task 2025"** before your first lesson back in September.

Extra Guidance:

P1: Learners are required to explain the purpose of the different systems software as identified in the teaching content. The evidence could be presented as a report, part of a technical guide or a presentation (either videoed or with detailed speaker notes).

M1: Learners are required to compare the features and functions of a range (three or more) of different systems software. This can be an extension of P1, but the comparisons must include any similarities and differences between the different software. The evidence could be presented as a report, part of a technical guide or a presentation (either videoed or with detailed speaker notes).

P2: Learners are required to outline the different application software available to end users. The outlines must cover general purpose, special purpose and bespoke, and include an account of the purpose of each application software category as well as the purpose for the example of each category type selected. The evidence can be in the form of a report, a presentation (either videoed or with detailed speaker notes) or as a teacher resource.

P3: Learners are required to describe the reasons for carrying out software installations and upgrades. The outline should include a description of each of the reasons (using examples), which includes the main characteristics/points. The evidence could be in the form of a presentation (either videoed or with detailed speaker notes), report, or information sheet.

D1: Learners are required to assess different types of software installation. The discussions should include a variety of ideas and arguments as to why certain types of software installation are more appropriate than others. Learners should discuss at least five of the types of software installation and include examples of where and how they are used. The evidence could be in the form of a technical guide, report or presentation (either videoed or with detailed speaker notes).

Optional Activities

Take a look at the coursework units for next year!

Unit 19 – Computer systems - software
Unit 18 – Computer systems - hardware
Unit 4 – Computer networks

Ed Stout – IT Support Services Manager at Leeds Beckett University. Talks about his journey from college to current managerial position. Tips on how to gain experience, routes into the industry and what he looks for when recruiting.

IT Work Experience Talk

Here are a collection of interesting talks and interviews that will expand your understanding of the world of IT and Computing:

Joe Rogan Experience #1368 - Edward Snowden

YouTube CEO Susan Wojcicki | Full interview | Code 2019

How I used to rob banks! by FC (aka Freaky Clown)

GOTO 2018 • The Future of the Web • Sir Tim Berners-Lee

The mind behind Linux | Linus Torvalds

There are a series of good YouTube channels that regularly post interesting videos about the world of IT and Computing:

Linus Tech Tips

Computerphile

Techquickie

Crash course computing

Explaining computers

Another great exercise is to regularly read news articles and stories. These will keep you up to date with all of the latest happenings in technology:

BBC
Sky
The Guardian
Computer World
CNET