

## 3.6: Study Questions

### 3.6.1: Study Questions

#### ? Study Question 3.6.1

Give your own definition of software.

##### **Answer**

Software is a set of instructions or programs that tells the hardware of a computing device how to operate and perform tasks.

#### ? Study Question 3.6.2

Identify the key functions of the operating system.

##### **Answer**

Key functions of an operating system: manages hardware resources, provides user interface, provides platform for software developers.

#### ? Study Question 3.6.3

Match which of the following are operating systems and which are applications: Microsoft Excel, Google Chrome, iTunes, Windows, Android, Angry Birds.

##### **Answer**

Operating systems: Windows, Android Applications: Microsoft Excel, Google Chrome, iTunes, Angry Birds.

#### ? Study Question 3.6.4

List your favorite software application and explain what tasks it helps you accomplish.

##### **Answer**

There are many options. Here is one example: My favorite software is Google Sheets. It allows me to create spreadsheets to track data, run calculations and analyses, create charts, collaborate with others on reports, and more.

#### ? Study Question 3.6.5

Explain what is a “killer” app and identify the killer app for the PC.

##### **Answer**

A "killer" app is a software application so useful or popular it drives sales of the hardware platform needed to run it. The killer app that helped popularize the PC was the spreadsheet, exemplified by VisiCalc.

#### ? Study Question 3.6.6

List at least three basic categories of mobile apps and give an example of each.

##### **Answer**

Three categories of mobile apps:

- Productivity - document editors, cloud storage
- Entertainment - games, video/music streaming
- Utilities - maps, banks, airline apps

### ? Study Question 3.6.7

Explain what an ERP system does.

#### **Answer**

An ERP integrates business processes across departments onto a unified system. It includes modules for functions like accounting, manufacturing, HR.

### ? Study Question 3.6.8

Explain what AI generative model is

#### **Answer**

AI generative models are trained on massive quantities of data such as images to generate new images given a specific description, or massive online texts to generate new text-based answers.

### ? Study Question 3.6.9

What is AI hallucinations?

#### **Answer**

Watch the video in the section Artificial Intelligence Software and name two ideas from the video.

### ? Study Question 3.6.10

Explain the difference between open-source software and closed-source software. Give an example of each.

#### **Answer**

Open source software has publicly available source code that can be modified. Closed source software keeps source code private. Example open: Linux. Closed: Microsoft Windows.

### ? Study Question 3.6.11

Describe what a software license is.

#### **Answer**

A software license dictates the terms of use for a software program. It specifies permissions like number of users and installations.

### ? Study Question 3.6.12

Explain the process of creating a software program.

#### **Answer**

To create software:

- Programmers write source code in a programming language
- Source code is compiled into machine-readable instructions
- Programming done in an integrated development environment
- Teams follow methodologies to manage large projects

### 3.6.2: Exercises

1. Go online and find a case study about the implementation of an ERP system. Was it successful? How long did it take? Does the case study tell you how much money the organization spent?
2. What ERP system does your university or place of employment use? Find out which one they use and see how it compares to other ERP systems.
3. If you were running a small business with limited funds for information technology, would you consider using cloud computing? Find some web-based resources that support your decision.
4. Download and install [Open Office](#). Use it to create a document or spreadsheet. How does it compare to Microsoft Office? Does the fact that you got it for free make it feel less valuable?
5. Go to [sourceforge.net](#) and review their most downloaded software applications. Report back on the variety of applications you find. Then pick one that interests you and report back on what it does, the kind of technical support offered, and the user reviews.
6. Go online to research the security risks of open-source software. Write a short analysis giving your opinion on the different risks discussed.
7. What are three examples of programming languages? What makes each of these languages useful to programmers?
8. Ask ChatGPT three questions, rewrite the answer in your own words, and compare the difference. Which one is authentic and why?

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