Ch10

Ethics and Ownership

CHAPTER ASSIGNMENT · 45 MARKS

Name _____ Class _____ No. _____ Date _____

Answer every question in the space given. Show your working. You may use the chapter page to help you.

Questions from *Computer Science for Cambridge International AS & A Level Coursebook*, 2nd edition, Sylvia Langfield and Dave Duddell (Cambridge University Press), for classroom use.

Tasks and questions from the chapter

DP **Discussion Point:** Search the clauses for all eight principles of the IEEE-CS/ACM Joint Task Force Software Engineering Code of Ethics code and identify the ones that mention documentation. Why is documentation mentioned so many times?

DP **Discussion Point:** This section has deliberately been presented in generalisations. You should carry out a search for some individual examples and then consider actions that could have been taken and justified as being for the public good.

DP **Discussion Point:** How often do you think that open licence software is being used? Should it be used more often?

T10.01 **Task 10.01:** Carry out a search to investigate some of the software available under an open licence.

DP **Discussion Point:** Have you seen any recent information about new developments in AI?

RP **Reflection Point:** Is there an organisation in your country for professional computer scientists? If so, does it encourage young people to join?

Exam-style questions

1 (a) Complete the following sentences:

(i) As a computer professional your primary concern when faced with an issue should be .....

(ii) If an issue arises you should exercise your ..... and possibly seek .....

(iii) You have a responsibility to act in accordance with the welfare of ....

(iv) You are expected to act in the interests of your ..... and of your .....

(v) You should not accept ..... for which you lack
.....
[8]

(b) Explain **two** reasons why documentation is mentioned so often in the ACM/IEEE code of conduct. [4]

2 (a) Copyright is an important consideration when something is created.

(i) State what copyright primarily defines. [1]

(ii) When copyright is registered, some data will be recorded. Identify **two** examples of the type of data that would be recorded. [2]

(iii) Copyright legislation defines two conditions that will apply to the copyrighted work. Identify **one** of these. [1]

(iv) When copyright has been established there are options for how usage will be controlled. Give **two** alternatives for the instructions that could be included in the copyright statement for the created item. [2]

(b) When software is obtained there will be an associated licence defining how it can be used.

(i) For commercial software, describe **two** different ways in which the licence might be applied and explain the benefits to the customer of one of these. [4]

(ii) Define the difference between freeware and shareware. [2]

3 Identify **two** applications of artificial intelligence. For each one identify an aspect of human intelligence that the application mimics. Either explain how the application will be a benefit or explain why there would be concern about its use. [8]

4 Bobby is a senior programmer at a software house which produces intruder detection software. He also runs his own software company which develops and sells various computer applications. The following table shows seven activities which Bobby carries out. Put a tick ($\checkmark$) in the appropriate column to identify if the activity is ethical or unethical. [7]

Activity	Ethical	Unethical
Gives away passwords used in the intruder detection software		
Uses source code developed at the software house for the software he develops for his own company		
Insists that staff work to deadlines		
Turns down training opportunities offered by his employer		
Writes and sells software that reads confidential data from client computers		
Fakes test results of safety-critical software		
Has the software applications developed overseas for sale in his own country		

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5 A team of software engineers is developing a new e-commerce program for a client. State **three** of the principles of the ACM/IEEE Software Engineering Code of Ethics. Illustrate each one, with an example, describing how it will influence their working practices. [6]

Cambridge International AS & A Level Computer Science 9608 paper 11 Q6 June 2016

End of assignment · Check your answers against the chapter at gurujazzy.com/subjects/computer-science/as-a-level/ethics-ownership/