1. Nov/2021/Paper_11/No.4d

Francis is starting his first job as a software developer for a multinational company.

(a) Francis has been advised to join a professional ethical body.

Describe the benefits to Francis of joining a professional ethical body.

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..... [3]

(b) Francis is shown the software he will be working on. He is unfamiliar with the Integrated Development Environment (IDE) he is required to use.

(i) Describe the ways in which Francis can act ethically in this situation.

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..... [2]

(ii) A typical IDE provides debugging tools to support the testing of a program.

Identify **three** other tools or features found in a typical IDE to support the writing of the program.

1 .....

2 .....

3 .....

[3]

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(c) Francis is part of a team writing a program. He finds an error in part of the program that has already been tested. He decides not to tell anyone because he is worried about the consequences.

Explain the reasons why Francis acted unethically in this situation.

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..... [2]

(d) Francis's team use language translators.

Complete the descriptions of language translators by writing the missing words.

..... are usually used when a high-level language program is complete. They translate all the code at the same time and then run the program.

They produce ..... files that can be run without the source code.

..... translate one line of a high-level language program at a time, and then run that line of code. They are most useful while developing the programs because errors can be corrected and then the program continues from that line.

Assemblers are used to translate assembly code into ..... .

[4]

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2. Nov/2021/Paper_12/No.7

A computer has system software.

(a) The Operating System handles interrupts.

Tick (✓) **one** box in each row to identify whether each event is an example of a hardware interrupt or a software interrupt.

Event	Hardware interrupt	Software interrupt
Buffer full		
Printer is out of paper		
User has pressed a key on the keyboard		
Division by zero		
Power failure		
Stack overflow		

[3]

(b) Describe the file management tasks that an Operating System performs.

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..... [4]

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(c) Identify **two** utility programs that can be used to improve the performance of a computer **and** state how they improve the performance.

1 .....

.....

.....

.....

2 .....

.....

.....

.....

[4]

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3. Nov/2021/Paper_13/No.4d

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3 .....

[3]

PapaCambridge

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Assemblers are used to translate assembly code into ..... .

[4]

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4. June/2021/Paper_11/No.2

Bingwen's computer comes with an Operating System and utility software.

(a) Draw **one** line from each utility software to its correct description.

Utility software	Description
	Scans software for errors and repairs the problems
Disk formatter	Moves parts of files so that each file is contiguous in memory
Defragmentation	Creates a copy of data that is no longer required
Back-up	Sets up a disk so it is ready to store files
Disk repair	Scans for errors in a disk and corrects them
	Creates a copy of data in case the original is lost

[4]

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(b) Identify **four** key management tasks that the Operating System will perform.

1 .....

2 .....

3 .....

4 .....

[4]

5. June/2021/Paper_12/No.2c

Aisha manages a team of software developers.

(a) Explain the reasons why it is important that Aisha acts ethically in relation to her team members.

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..... [2]

(b) The team are developing a computer game where the user plays a board game (such as chess) against the computer.

Describe how the computer would use Artificial Intelligence (AI) to play the board game.

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..... [3]

(c) The final game will be released under a licence.

Tick (✓) **one or more** boxes in each row to identify the licence(s) each statement describes.

Statement	Free Software Foundation	Open Source Initiative	Shareware	Commercial Software
The user can edit the source code				
The user **must** always pay before being able to use the software				
The user can redistribute the software				
The user always gets a trial period				

[4]

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6. June/2021/Paper_12/No.7

Jennifer is writing a computer program for her A Level homework.

(a) Jennifer uses a program library to help her write her computer program.

Describe how a program library can be used while writing a computer program.

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..... [2]

(b) Jennifer uses an Integrated Development Environment (IDE) to write her computer program.

(i) The IDE allows Jennifer to use both an interpreter and a compiler while creating her computer program.

Describe the ways in which Jennifer can use **both** a compiler **and** an interpreter while developing the program.

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..... [4]

(ii) Identify **two** debugging tools that a typical IDE can provide.

1 .....

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2 .....

.....

[2]

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