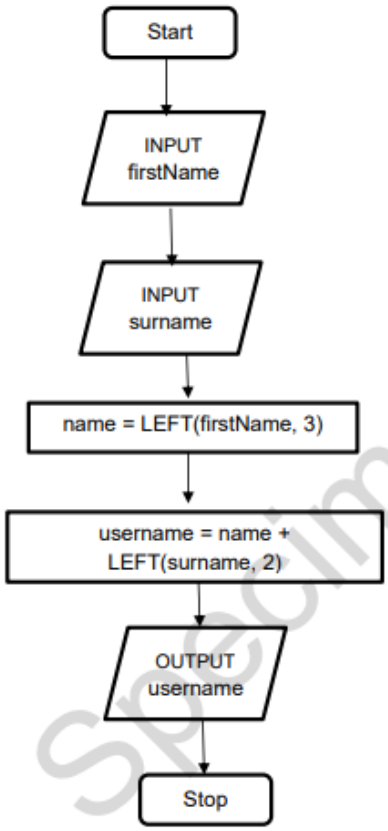
**The questions on this worksheet have been taken from the OCR GCSE Computer Science Specimen Paper 2**

# 6-A-Day – Computer Science GCSE (p2.3-2016)

## Q1

Johnny is writing a program to create usernames. The first process he has developed is shown in the flowchart in **Fig. 1**.

**Fig. 1**






For example, using the process in **Fig. 1**, Tom Ward's user name would be TomWa.

**(a)** State, using the process in **Fig. 1**, the username for Rebecca Ellis.

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**[1]**

## Q2

**(b)** Johnny has updated the process used to create usernames as follows:

- If the person is male, then their username is the last 3 letters of their surname and the first 2 letters of their first name.
- If the person is female, then their username is the first 3 letters of their first name and the first 2 letters of their surname.

- What would be the username for a male called Fred Biscuit using the updated process?

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**[1]**

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Q3

- Write an algorithm for Johnny to output a username using the updated process.

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**[6]**

Q4

Harry is planning to create a computer game using a high-level programming language.

**(a)** State why the computer needs to translate the code before it is executed.

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**[1]**

Q5

**(b)** Harry can use either a complier or an interpreter to translate the code.

Describe **two** differences between how a complier and an interpreter would translate Harry's computer game.

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**[4]**

Q6

Heath is researching how long, to the nearest minute, each student in his class spends playing computer games in one week (Monday to Friday). He is storing the data in a 2D array.

**Fig. 2** shows part of the array, with 4 students.

**Fig. 2**

| Days of the week | Students 0 | 1 | 2 | 3 |
|---|---|---|---|---|
| 0 | 60 | 30 | 45 | 0 |
| 1 | 180 | 60 | 0 | 60 |
| 2 | 200 | 30 | 0 | 20 |
| 3 | 60 | 10 | 15 | 15 |
| 4 | 100 | 35 | 30 | 45 |

For example, student 1, on Monday (day 0), played 30 minutes of computer games.

**(a)** Explain why Heath is using an array to store the data.

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**[2]**