



New GCSE

4342/01

COMPUTER SCIENCE

UNIT 2: Solving Problems Using Computers

Question Paper

A.M. FRIDAY, 20 June 2014

2 hours

INSTRUCTIONS TO CANDIDATES

You will need a computer with a functional copy of Greenfoot pre-installed.

Carry out **all** tasks and make sure that you check your work carefully to ensure that the work you produce is accurate and correct.

It is important that you work independently from other candidates and make sure that what you hand in is your own unaided work.

Save your work regularly.

INFORMATION FOR CANDIDATES

The total mark available for this unit is **30**.

The quality of written communication will be assessed in task **3**.

Answer Task 1, Task 2 and Task 3.

Task 1

[6]

A first attempt at producing a HTML webpage to advertise a phone recycling company is shown below.

Wanted!

Your old mobile phone for cash!

Click to visit www.phonerecycle.co.uk

Here at PhoneRecycle we can pay you for your old working mobile phones. We recycle the components and refurbish handsets ready for their next use. Please visit our website for a quote today!

The webpage was then improved using various HTML tags to provide the formatting shown below.

Wanted!

Your old mobile phone for cash!

Click to visit www.phonerecycle.co.uk

Here at PhoneRecycle we can pay you for your old working mobile phones. We recycle the components and refurbish handsets ready for their next use. Please visit our website for a quote **today!**

Open the file *phonerecycle.txt* using a basic text editor. Insert the required HTML tags that would be needed to display the formatting shown in the improved webpage. Save your completed work as *Finalphonerecycle.txt*

Task 2

[9]

A diving competition calculates the final mark for each dive based on the marks of six judges. Each judge awards a mark individually (up to a maximum mark of 6.0).

The highest mark and the lowest mark are recorded but **not used** to calculate the final mark. The final mark is calculated by adding the four remaining marks together and dividing by four.

Using a basic text editor, write an algorithm, which inputs six judges' marks and outputs the lowest mark, the highest mark and the final mark. Save your completed algorithm as DivingAlgorithm.txt

For example, with inputs:

5.9

6.0

5.9

5.7

5.6

5.7

The output would be:

Highest:

6.0

Lowest:

5.6

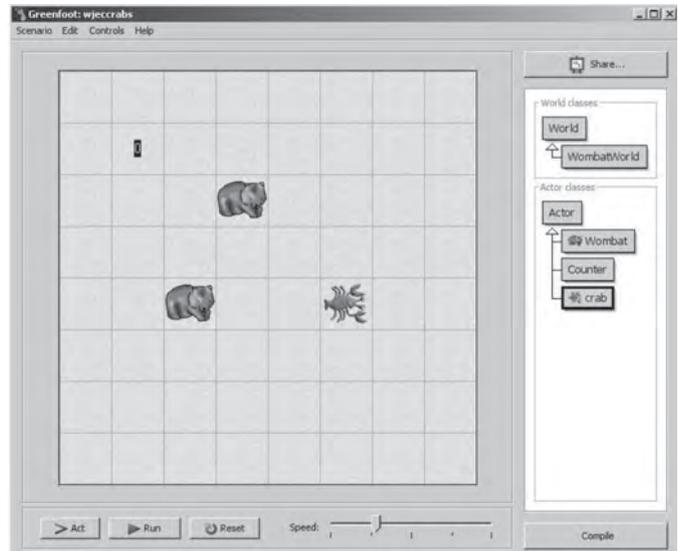
Final Mark:

5.8

Task 3

[15]

- (a) Open the WJEC Crabs scenario in Greenfoot.
- (b) Populate the world with a *crab* and some *wombats*.
- (c) Edit the *wombat* so that it turns and moves randomly.
- (d) Edit the program code to make the *crab* move in the direction of the arrow keys when pressed.
- (e) Edit the *crab* so that it “eats” a *wombat* (removes the wombat from the world) if they collide.
- (f) Add a sound which will play every time a *crab* “eats” a *wombat*.
- (g) Add a counter and edit the crab’s code so that the counter displays how many wombats the crab has “eaten”.
- (h) Save your completed world as FinalWJEC Crabs

**END OF PAPER**