



**GCSE**

4342/01



S15-4342-01

**COMPUTER SCIENCE**

**UNIT 2: Solving Problems Using Computers**

**Question Paper**

A.M. THURSDAY, 11 June 2015

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 an HTML webpage to advertise a cloud storage service is shown below.

Cloud Storage for you!

Access your data anywhere!

Cloud Storage is the powerful and convenient way to access all of your information, documents, pictures, music and videos wherever you are, using any device!

Click the link below to find out more.

[www.cloudstorageforyou.co.uk](http://www.cloudstorageforyou.co.uk)

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

**Cloud Storage for you!**

*Access your data anywhere!*

**Cloud Storage** is the powerful and convenient way to access all of your information, documents, pictures, music and videos wherever you are, using any device!

Click the link below to find out more.

[www.cloudstorageforyou.co.uk](http://www.cloudstorageforyou.co.uk)

Open the file *CloudStorage.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 *FinalCloudStorage.txt*

**Task 2**

[9]

The manager of a mobile phone shop has many staff members. Each staff member's monthly sales of mobile phone contracts are recorded over a period of 12 months. If a staff member sells more than 4 mobile phone contracts in one month they are awarded a bonus.

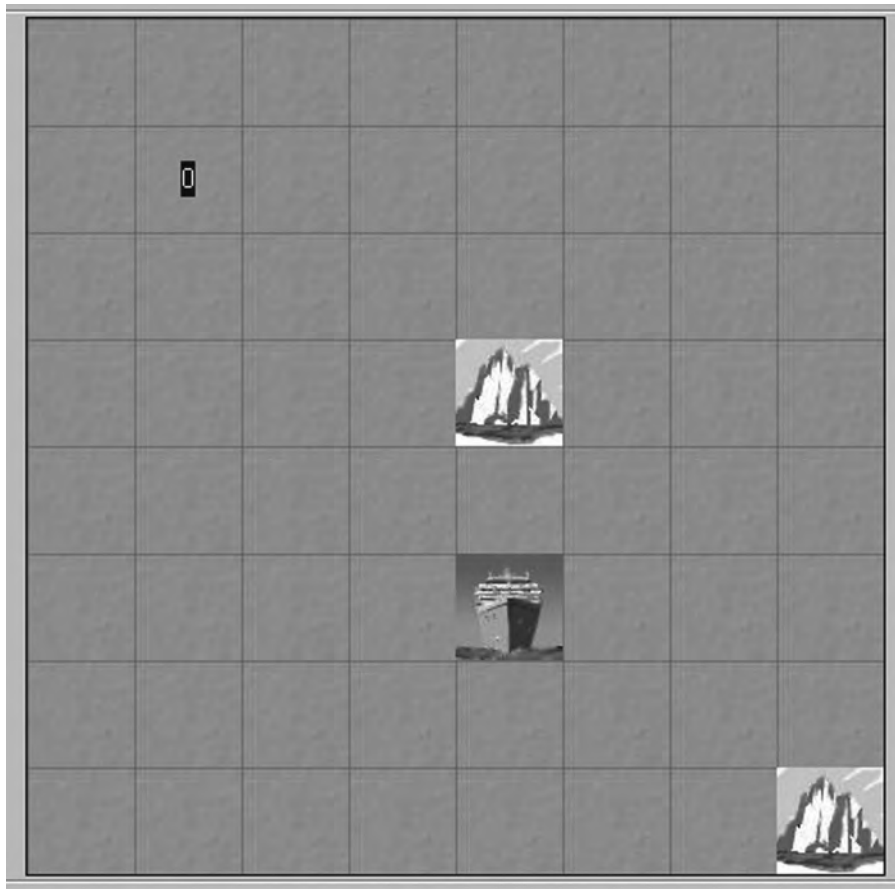
Using a basic text editor, write an algorithm, which:

- inputs the number of staff members;
- inputs the number of monthly sales of mobile phone contracts for each staff member;
- outputs whether a staff member has a bonus for that month;
- calculates the total annual sales of each staff member;
- outputs the total annual sales for each staff member.

A partial example of the **input** and output of the algorithm is shown below.  
(... indicates lines of input and output that are not shown)

```
Please enter the number of Staff members: 3
Enter month 1 figures for Staff member 1: 2
Enter month 2 figures for Staff member 1: 5
Bonus awarded.
Enter month 3 figures for Staff member 1: 3
...
...
Enter month 12 figures for Staff member 1: 2
Enter month 1 figures for Staff member 2: 3
...
...
Enter month 12 figures for Staff member 3: 3
Totals:
Staff member 1: 38
Staff member 2: 29
Staff member 3: 42
```

Save your completed algorithm as SalesBonus.txt

**Task 3**

[15]

- (a) Open the WJECIceBreaker scenario in Greenfoot.
- (b) Populate the world with a Ship (Icebreaker) and some Icebergs.
- (c) Edit the Icebergs so that they turn and move randomly.
- (d) Edit the program code to make the Ship move in the direction of the arrow keys when pressed.
- (e) Edit the Ship so that it “breaks” an Iceberg when they collide (removes the Iceberg from the world).
- (f) Add a sound which will play every time the Ship collides with an Iceberg.
- (g) Add a counter and edit the Ship’s code so that the counter displays how many Icebergs have been broken (removed from the world).
- (h) Save your completed world as FinalIceBreaker

**END OF PAPER**