6-A-Day – Computer Science GCSE (21)

Q1	Mrs Smith runs a dog sitting service that looks after dogs whose owners are going away on holiday.

Mrs Smith uses a database with two tables:
- The table DOG stores the following data about each dog: DogID, name, sex, weight, date of arrival, date of departure.
- The table JOB stores the daily jobs that she needs to do with each dog.

An extract of the JOB table is shown below:

JobNumber	DogID	JobType	Time	Details
35	SM13	Feed	Morning	250g of Hundex
36	BA12	Walk	Afternoon	At least 30 minutes
37	SM13	Walk	Afternoon	Keep on leash
38	GH14	Other	Morning	Medicine: 1 tablet of Depucine
39	HT19	Other	Evening	Brush fur

(b) Explain why DogID has been included in this table.

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.... **[3]**

Q2

Mrs Smith uses a query to select jobs using the following criteria:

(Time = "Afternoon") OR (Time = "Evening")

List the JobNumbers of the jobs that will be selected from the extract shown.

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.... **[1]**

Q3

Mrs Smith wants to use database management software to create a report of all the jobs that she needs to perform on any given day, using data from the DOG and JOB tables.

In the space below, design a layout for the report.

6

Q4	The program in a vending machine uses an array called Coins to store the value in pence of all the coins that have been entered in the current sale.

A maximum of 10 coins can be entered in each sale.

After each sale, the array is reset so that all values are 0.

(a) Here is an example of the contents of the array Coins during a sale.

10	100	20	50	5	0	0	0	0	0

In the example above, the value of Coins(1) is 10.

State the value of

Coins(4) ....

Coins(10) .... **[2]** |
| Q5 | **(b)** An algorithm to reset the contents of the array Coins after each sale is shown below. This algorithm contains a logic error.

```
i = 1
REPEAT
     Coins(i) = 0
     i = i + 1
UNTIL i = 10
```

(i) State what is meant by a logic error.

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.... **[1]** |
| Q6 | **(ii)** Explain why the algorithm above contains a logic error.

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.... **[2]** |