MODULE N DATABASES AND SQL · N1

Databases: tables, records and fields

Original practice questions · 21 marks · ~25 minutes · OCR J277 spec 2.2.3

Name _____ Date _____

Instructions. Answer all questions in the spaces provided. The marks for each part are shown in brackets [ ]. The total for this worksheet is **21 marks**. Code is written in OCR Exam Reference Language, where arrays are indexed from 0. All data on this sheet is made up.

1

Total: 3 marks

(a) Tick (✓) **one** box in each row to show whether each description is of a table, a record or a field. **[3]**

Description	Table	Record	Field
All of the data stored about one item, shown as one row.			
One category of data, such as a name or a price, that is stored for every item and shown as one column.			
A collection of records about one type of item, where every record has the same fields.			

2 **Total: 8 marks**

A bike hire company stores details of its bikes in a database table called `TblBike`. `DailyRate` is the cost in pounds to hire the bike for one day.

BikeID	Type	Colour	Size	DailyRate	Electric
B101	Road	Red	M	18.00	False
B102	Mountain	Black	L	25.00	True
B103	Hybrid	Blue	S	15.00	False
B104	Mountain	Green	M	22.00	False
B105	Road	Black	L	30.00	True
B106	Hybrid	White	M	26.00	True
B107	Cargo	Orange	L	35.00	True

(a) State the number of records in `TblBike`. **[1]**

(b) State the number of fields in `TblBike`. **[1]**

(c) Give the `BikeID` of **every** record that has a `Size` of `L` **and** an `Electric` value of `True`. **[2]**

(d) The company also wants to store the date that each bike was last serviced. Describe how `TblBike` would need to change. **[2]**

(e) The company buys one more bike. Complete the table below to give an example of a full record for this bike that could be added to `TblBike`. **[2]**

BikeID	Type	Colour	Size	DailyRate	Electric

3

Total: 7 marks

The company's booking program holds the same data in a 2D array called `bikes`, so that the array emulates the table `TblBike`. The first index is the row and the second index is the column. Every element is stored as a string, so `bikes[0,0]` is `"B101"` and `bikes[0,5]` is `"False"`.

	0	1	2	3	4	5
0	"B101"	"Road"	"Red"	"M"	"18.00"	"False"
1	"B102"	"Mountain"	"Black"	"L"	"25.00"	"True"
2	"B103"	"Hybrid"	"Blue"	"S"	"15.00"	"False"
3	"B104"	"Mountain"	"Green"	"M"	"22.00"	"False"
4	"B105"	"Road"	"Black"	"L"	"30.00"	"True"
5	"B106"	"Hybrid"	"White"	"M"	"26.00"	"True"
6	"B107"	"Cargo"	"Orange"	"L"	"35.00"	"True"

(a) State what **one row** of the array `bikes` represents and what **one column** represents. **[2]**

Row

Column

(b) State the value stored in `bikes[4,1]` **[1]**

(c) Bike `B103` is repainted yellow. Write **one** line of code to update its record in the array. **[1]**

(d) Write code that uses iteration to output the `BikeID` of every record in the array whose `Electric` value is `"True"`. **[3]**

You must use either:

- OCR Exam Reference Language, or
- a high-level programming language that you have studied.

4 **Total: 3 marks**

A seed library keeps a database table with one record for each variety of seed it holds. It holds 450 varieties, and it stores 8 items of data about each variety.

(a) State the number of records in the table. **[1]**

(b) The library then adds 30 new varieties to the table. It also adds one new field to store the month that each variety should be planted. State the number of records and the number of fields the table now has. **[2]**

Records

Fields

Total for this worksheet: 21 marks