Summative assessment – Answers

## Databases and SQL

|  |  |  |  |
| --- | --- | --- | --- |
| **CaptureID** | **Registered\_owner** | **Car\_reg** | **Speed** |
| 1 | Sara Bibi | JN03HNM | 83 |
| 2 | Danny Judd | YM15PTO | 70 |
| 3 | Cara Lichfield | LG01KZK | 75 |
| 4 | Abeni Barmore | UT02SKK | 68 |
| 5 | Baki Kaatz | XB18NVA | 67 |
| 6 | Cara Lichfield | LG01KZK | 72 |

The table above (tblSpeeds) is data collected from a speed camera on a motorway. The camera captures the car registration plate and the speed at which the car was travelling. The car reg is used to find the registered owner of the car, and the data is stored in a flat file database.

Q1. Which of the fields above would be most suitable to be the primary key? [1]

A. **CaptureID**

B. Registered\_owner

C. Car\_reg

D. Speed

Q2. Justify your answer to question 1. [1]

|  |
| --- |
| CaptureID is the field that is guaranteed to be **unique**. All of the other data in this table is not guaranteed to be unique. |

Q3. What would be the most appropriate data type for car\_reg?

A. **TEXT**

B. INTEGER

C. REAL

D. NULL

Q4. What would be the most appropriate data type for Speed?

A. TEXT

B. **INTEGER**

C. REAL

D. NULL

Q5. The data is in a flat file database. Describe one problem that can arise from having a flat file database. [2]

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| Answers relating to either redundancy or inconsistency with a valid description. |

Q6. Write down the exact output for the following query: [1]

|  |  |
| --- | --- |
| 1  2  3 | SELECT Registered\_owner  FROM tblSpeeds  WHERE Speed > 75; |

|  |
| --- |
| Sara Bibi |

Q7. The authorities want to offer a speed awareness course to those drivers recorded as travelling between 71 and 80. Write a query to extract the appropriate records from tblSpeeds. You must show all the fields in your output. [3]

|  |  |
| --- | --- |
| 1  2  3 | SELECT \*  FROM tblSpeeds  WHERE Speed BETWEEN 71 AND 80; |

*One mark for each correct line*

Q8. The camera has captured a new car travelling down the motorway. Write an SQL script to insert the following data into tblSpeeds. [4]

|  |  |  |
| --- | --- | --- |
| **Registered\_owner** | **Car\_reg** | **Speed** |
| Allen Heard | CM20YGD | 70 |

|  |  |
| --- | --- |
| 1  2 | INSERT INTO tblSpeeds (Registered\_owner, Car\_reg, Speed)  VALUES ("Allen Heard","CM20YGD",70); |

1 mark for INSERT INTO

1 mark for adding the correct fields to insert into (not including CaptureID)

1 mark for VALUES

1 mark for correctly adding the values with speech marks around the strings and no speech marks around the integer

Q9. The registered owner of vehicle YM15PTO has written to say that they are no longer the registered owner. Write a script to update the registered\_owner field in tblSpeeds for this vehicle to ‘Asif Shah’. [3]

|  |  |
| --- | --- |
| 1  2  3 | UPDATE tblSpeeds  SET registered\_owner = "Asif Shah"  WHERE car\_reg = "YM15PTO"; |

1 mark for each correct line

Q10. It has been proven that the camera needed calibrating and an incorrect speed was recorded for CaptureID number 6.

Write an SQL query that will delete this record from tblSpeeds. [2]

|  |  |
| --- | --- |
| 1  2 | DELETE FROM tblSpeeds  WHERE CaptureID = 6; |

1 mark for each correct line

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