

15. The Caledonian Drone Racing League stores the results of their first season's competitions in a relational database. Pilots' times for each race are recorded in seconds.

DO NOT
WRITE IN
THIS
MARGIN



The relational database uses the following three tables.

| Pilot | Race | Entry |
|----------|--------|----------|
| pilotID | racelD | racelD* |
| forename | title | pilotID* |
| surname | city | position |

Sample data from the three tables is shown below.

| Pilot | | |
|---------|----------|---------|
| pilotID | forename | surname |
| P001 | Matthew | Thomas |
| P002 | Ann | Wilson |
| P003 | Joseph | Dow |
| P004 | Sam | Friar |
| ... | ... | ... |

| Race | | |
|--------|----------------|----------|
| racelD | title | city |
| 1 | Granite Range | Aberdeen |
| 2 | Clyde Maze | Glasgow |
| 3 | Factory Frenzy | Ayr |

| Entry | | | |
|--------|---------|----------|----------|
| racelD | pilotID | position | raceTime |
| 1 | P001 | 2 | 92.4 |
| 1 | P002 | 3 | 96.5 |
| 1 | P003 | 1 | 86.8 |
| 1 | P004 | 4 | 98.5 |
| 1 | P005 | 5 | 98.9 |
| ... | ... | ... | ... |
| 2 | P001 | 4 | 120.5 |
| 2 | P003 | 2 | 109.7 |
| 2 | P002 | 1 | 101.5 |
| 2 | P004 | 3 | 115.5 |
| 2 | P006 | 5 | 121.0 |
| ... | ... | ... | ... |
| 3 | P001 | 3 | 109.8 |
| 3 | P002 | 2 | 109.6 |
| 3 | P003 | 1 | 106.9 |
| 3 | P004 | 4 | 145.2 |
| ... | ... | ... | ... |



* X 8 1 6 7 6 0 1 2 1 *

15. (continued)

Pilots win £150 for first place. The league would like to produce a list of the names and total amount of winnings for those pilots that have come in first place.

The expected output is shown below.

| pilotID | forename | surname | Winnings |
|---------|----------|---------|----------|
| P002 | Ann | Wilson | 150 |
| P003 | Joseph | Dow | 300 |

- (a) Design a query to display the output above.

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| | |
|-----------------------------|--|
| Field(s) and Calculation(s) | |
| Tables(s) | |
| Search Criteria | |
| Grouping | |
| Sort Order | |

- (b) Write an SQL statement to display the title of each race and the average time for that race.

The expected output is shown below.

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| title | Average Time |
|----------------|--------------|
| Clyde Maze | 114.27 |
| Factory Frenzy | 116.67 |
| Granite Range | 103.22 |



15. (continued)

- (c) A query was created to display the fastest time in any race. This query was saved as 'Fastest' and the output of it is shown below.

| FastestTime |
|-------------|
| 86.8 |

Using the 'Fastest' query, complete the SQL statement below to display the name of the pilot(s) who achieved this time.

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```
SELECT forename, surname
```

- (d) The first season was such a success they are running a second season using the same races.

The pilot who won the first race of the second season in Aberdeen won the same race in the first season. When the organisers try to add this new record they found the database was not fit for purpose.

Explain why this record could not be added to the Entry table.

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