Higher Computing Science

Database Implementation: Calculations and Computed Fields

Make a copy of the database called Calculations.

Use the tables provided in this database to generate each of the following computed fields.

1. The table called Question1 stores the test results of several pupils.

Field Name
pupilID
Forename
Surname
test1
test2
test3
test4

(a) Use a SQL query to list the full name of each pupil together with the pupil's total mark for all 3 tests.

(b) Use a SQL query to list the first name of each pupil with their 3 test arks and the average mark for the 3 tests. These details should be arranged so that the pupil with the highest average mark is listed first.

2. The table called Question2 stores the hours worked and hourly rate of some staff members.

Field Name
staffID
Forename
Surname
hourlyRate
hoursWorked

(a) Use a SQL query to list the full name of each member of staff together with their total wage.

(b) Use a SQL query to list the full name of all members of staff whose wage is over £200.

3. The table called Question3 stores the details of students and the marks they achieved in monthly tests (each test was out of 16 marks).

Field Name
Forename
Surname
test1
test2
test3
test4
test5

(a) Use a SQL query to list each test mark as a percentage.

Notes: (1) to generate the percentages, divide each mark by 16 and multiply by 100

(b) Use a SQL query to list the full name of each student together with the student's total mark as a percentage. These details should be listed from smallest percentage to largest; students with the same percentage should be listed in alphabetical order of surname.

4. The table called Question4 stores details of items for sale in the school tuckshop.

Field Name
productID
productName
buyingPrice
sellingPrice

(a) Use a SQL query to list the name of each item, its buying price, selling price and the profit or loss for that item.

(b) Use a SQL query to list the name of each loss-making item with the amount of its loss. The items should be arranged so that the item with the smallest loss is listed first.

5. The table called Question5 stores details of products and their prices.

Field Name
productName
productID
priceUK

(a) Use a SQL query to list the products name, UK price and the equivalent prices in Euros.

Notes: (1) £1 buys €1.13

(b) Use a SQL query to list the ID of any products that cost most than $40 dollars. The query should show the UK prices as well as the equivalent prices in US Dollars. The products should be listed with the cheapest displayed first; products that cost the same should be listed in increasing order of productID.

Note: £1 buys $1.39

6. The table called Question6 stores details of fish sales for a fish wholesaler.

Field Name
fishType
pricePerKilo
numberOfKilos

(a) Use a SQL query to list the full details of each type of fish together with the total cost of each sale.

(b) Use a SQL query to list the name of type of fish that has sales between £20 and £50. The results should be listed with the dearest sales displayed first.