

1.8.3 Data Definition Language and Data Manipulation Language

May/June 2007

11 (b) Describe the purpose of the following:

(i) the data description language (DDL), [2]

(ii) the data manipulation language (DML). [2]

Oct/NOV 2009. P31

8. (a) Describe the function and purpose of the following parts of a database management system (DBMS):

(i) data dictionary, [2]

(ii) data description language, [2]

(iii) data manipulation language. [2]

May/June 2011. P33

6. Describe the purpose of the following parts of a database management system (DBMS).

(i) Data Description Language (DDL) [2]

(ii) Data Manipulation Language (DML) [3]

May/June 2013. P31/32

1 (d) The following Data Manipulation Language query is run.

```
SELECT WardName
FROM WARD
WHERE NumberOfOccupiedBeds < NumberOfBeds
```

What useful information is produced for the Hospital Administrator? [2]

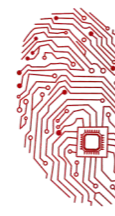
May/June 2013. P33

1 (d) The following Data Manipulation Language query is run.

```
SELECT PlayerRegistrationNo, PlayerName
FROM PLAYER
WHERE Gender='F' AND PreferredPosition="Defender"
```

What useful information is produced from this query? [2]





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Oct/Nov 13. P31

2 (f) The table to store the race data has the following design:

```
RACE (RaceDate, RaceStartTime, StartVenue, Distance, OrganisingClubName)
```

Write a Data Manipulation Language (DML) query to report all races after the 1st January 2013 which are less than 10km. Display the race date and organising club name only.

Use the keywords `SELECT`, `FROM`, `WHERE`.

[3]

Oct/Nov 13. P32

2 (f) The table to store the order data has the following design:

```
ORDER (OrderNo, OrderDate, OrderTime, IsPaid, OrderAmountPaid, PaymentMethod, CustomerID)
```

- `IsPaid` has data type `Boolean`
- `PaymentMethod` has data type `Char` with possible values: C - credit card, D - debit card, A - account customer

Write a Data Manipulation Language (DML) query to report orders which were placed on the 15 January 2013 and paid for using a debit card. Show the customer ID and order number only.

Use the keywords `SELECT`, `FROM`, `WHERE`.

[3]

Oct/Nov 13. P33

2 (f) The table to store the hire data has the following design:

```
HIRE (HireID, CarRegistrationNo, HireBookingDate, HireStartDate, NoOfDays, HireRate, CustomerID)
```

Write a Data Manipulation Language (DML) query to report all hire bookings made for car registration 456431 with customer C674. Display the customer ID and hire ID only.

Use the keywords `SELECT`, `FROM`, `WHERE`.

[3]

May/June 2014. P31

2 (d) The following Data Manipulation Language (DML) query is run:

```
SELECT RegistrationNo
```

```
FROM Hire
```

```
WHERE (StartDate < Now() ) AND (ReturnDate > Now() );
```



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Note: Now () is a function which returns the current date and time.

Describe what useful information is produced by the query. [2]

(e) A query is needed to list the depot and registration number for all small car vehicles.

Write the query in Data Manipulation Language (DML). [3]

(f) On 05/04/2014, customer 085 booked a vehicle hire. This hire will start on 13/04/2014. When the customer arrives, the receptionist will check their driving licence. If the licence is valid, the value of the licence check attribute, of the correct Hire record, must be updated.

Complete the Data Manipulation Language (DML) command to make the change.

UPDATE Hire

SET

WHERE CustomerID = '085' AND ; [2]

May/June 2014. P33

2 (c) Additional data are to be stored about each artist as follows:

Artist(ArtistName, Nationality, YearBorn, YearDied)

The following Data Manipulation Language (DML) query is run.

SELECT PaintingRefNo

FROM Painting, Artist

WHERE (Artist.ArtistName = Painting.ArtistName) AND (YearBorn >= 1900) AND (YearDied <= 2000);

Identify what useful information is produced by the query. [2]

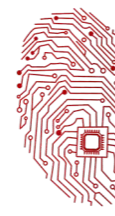
(d) Write a DML query to display the painting reference number and painting title for all paintings by Da Vinci. [3]

(e) The painting 'The Guitar Player' was in the 'Secrets and Silence' exhibition.

The ExhibitionPainting table has a record for this. In the record:

- The painting is referred to by its reference number, 9065.
- The loan fee is recorded as \$10000. This is an error – there was no charge made for the loan by the loaning gallery.

Complete the DML command to amend this record.



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UPDATE

SET

WHERE (ExhibitionTitle = 'Secrets and Silence')

AND (.....);

[3]

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3 (c) The final design for the customer table is: Customer(CustomerID, CustomerName, CustAddress, TelNo, DateRegistered) Customer 065 has contacted the gallery to tell them his new telephone number is 0123 456789.

Write the Data Manipulation Language (DML) command to update their record.

[3]

Oct/Nov 2014. P32

3 (c) Records have been created for all the runners entered for the race on 26/11/2014.

(i) Write a Data Manipulation Language query to display a list of the IDs of all the runners entered for this race. [3]

(ii) Following the race, the record for runner 8816 must now be updated to show she finished in 2nd place. Write a Data Manipulation Language command to update this record. [3]

Computer Science (9608)

May/ June 2016. P11/ P12

8 A school stores a large amount of data. This includes student attendance, qualification, and contact details. The school's software uses a file-based approach to store this data.

(b) The database design has three tables to store the classes that students attend.

STUDENT(StudentID, FirstName, LastName, Year, TutorGroup)

CLASS(ClassID, Subject)

CLASS-GROUP(StudentID, ClassID)

Primary keys are not shown.

There is a one-to-many relationship between **CLASS** and **CLASS-GROUP**.

(iii) Write an SQL script to display the StudentID and FirstName of all students who are in the tutor group 10B. Display the list in alphabetical order of LastName. [4]

(iv) Write an SQL script to display the LastName of all students who attend the class whose ClassID is CS1. [4]





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5 STUDENT

StudentID	FirstName	LastName	Tutor
001AT	Ahmad	Tan	11A
003JL	Jane	Li	11B
011HJ	Heather	Jones	10A

QUALIFICATION

QualCode	Level	Subject
CS1	IGCSE	Computer Science
MT9	IGCSE	Maths
SC12	IGCSE	Science

STUDENT-QUALIFICATION

QualCode	StudentID	Grade	DateOfAward
SC12	011HJ	A	31/8/2014
SC12	003JL	C	31/8/2014
CS1	003JL	B	31/8/2014

(d) (i) The database will store each student's date of birth.

Write an SQL script to add a date of birth attribute to the appropriate table. [2]

(ii) Write an SQL script to display the StudentID, Grade and DateOfAward for the QualCode value of SC12. [3]

(iii) Write an SQL script to display the FirstName and LastName and QualCode for all STUDENT-QUALIFICATIONS for which the Grade value is A. [4]

Oct/Nov 2016. P12

9 A health club offers classes to its members. A member needs to book into each class in advance.

(c) The CLASS table has primary key ClassID and stores the following data:





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ClassID	Description	StartDate	ClassTime	NoOfSessions	AdultsOnly
DAY01	Yoga beginners	12/01/2016	11:00	5	TRUE
EVE02	Yoga beginners	12/01/2016	19:00	5	FALSE
DAY16	Circuits	30/06/2016	10:30	4	FALSE

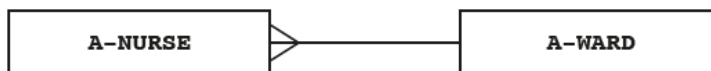
Write an SQL script to create the CLASS table.

[6]

May/June 2017. P13

1 A hospital is divided into two areas, Area A and Area B. Each area has several wards. All the ward names are different.

A number of nurses are based in Area A. These nurses always work on the same ward. Each nurse has a unique Nurse ID of STRING data type.



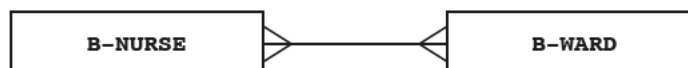
(c) In Area B of the hospital, there are a number of wards and a number of nurses.

Each Area B ward has a specialism.

Each Area B nurse has a specialism.

A nurse can be asked to work in any of the Area B wards where their specialism matches with the ward specialism.

The relationship for Area B of the hospital is:



(ii) The design for the Area B data is as follows:

B-NURSE (NurseID, FirstName, FamilyName, Specialism)

B-WARD (WardName, NumberOfBeds, Specialism)

B-WARD-NURSE(.....)

Complete the attributes for the third table. Underline its primary key.

[2]

(d) Use the table designs in part (c)(ii).

(i) Write an SQL query to display the Nurse ID and family name for all Area B nurses with a specialism of 'THEATRE'.

[3]

(ii) Fatima Woo is an Area B nurse with the nurse ID of 076. She has recently married, and her new family name is Chi.

Write an SQL command to update her record.

[3]

