Applied Databases

Topic 2 Exercise Sheet

***NOTE:*** *When* *doing* *these* *exercises,* *the* *purpose* *is* *to* *identify* *the* *process* *for* *finding* *the* *answer* *to* *the* *question,* *not* *just* *the* *answer* *itself.*

*For* *example,* *in* *question* *5* *below,* *the* *process* *(or* *command)* *for* *finding* *all* *the* *data* *in* *the* subject

*table* *will* *be* *quite* *similar* *to* *finding* *all* *data* *in* *any* *other* *table.*

*So,* *as* *well* *as* *noting* *the* *answers,* *you* *should* *also* *note* *the* *process* *(command* *or* *commands)* *used* *to* *get* *the* *answers.*

Description of the database.

The database consists of two tables, *subject* and *teacher*.

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| --- | --- |
| Subject | |
| Attribute | Description |
| **Name** | Name of Subject |
| **Teacher** | Name of Teacher of Subject |
| **OnLeavingCert** | 0 (false) if the subject is NOT on the Leaving Cert  Non 0 (true) if the subject IS on the Leaving Cert |

|  |  |
| --- | --- |
| Teacher | |
| Attribute | Description |
| **Tid** | Teacher ID |
| **Name** | Name of Teacher |
| **Level** | Level the teacher is qualified to teach to:  “J” means Junior Cert “L” means Leaving Cert |
| **Experience** | Years of Teaching Experience the Teacher has |
| **Dob** | Teacher’s date of birth |

1. Get school.sql from Moodle and import it into MySQL.
2. What is the maximum length of data that can be inserted into the *Name* attribute of the

*subject* table? describe subject; Name varchar(15)

1. What is the Primary Key of the *teacher* table? tid
2. What is the Primary Key of the *subject* table? Name
3. Show all data contained in the *subject* table. SELECT \* FROM subject;
4. Show all names of all subjects that are on the leaving cert.

SELECT name FROM subject WHERE OnLeavingCert !=0;

1. Show all name and experience of all teachers who are qualified to teach to Leaving Cert.

SELECT name, experience FROM teacher WHERE (level = "L");

1. Show all details of all subjects who are taught by teachers whose title is not “Mr.”

SELECT \* FROM subject WHERE teacher NOT LIKE 'Mr.%';

1. Show all details of all teachers who were born in January, February or March, and who can teach as far as Junior Cert only.

SELECT \* FROM teacher WHERE (level = "L" AND MONTH(dob) = 1 OR MONTH(dob)= 2 OR MONTH(dob)= 3);

1. Show all unique month names that teachers were born in.

SELECT distinct MONTH(dob) FROM teacher;

1. Show all details of all teachers, sorted by first by experience, then level.

SELECT \* FROM teacher ORDER BY experience, level;

1. Show all details of all subjects whose 3rd or 4th letter is “l”. Sort them by name.

SELECT name, experience, dob FROM teacher

WHERE experience IN (10, 15, 20, 25, 30, 35, 40, 45, 50, 55, 60)

ORDER BY YEAR(dob) ASC, MONTH(dob) ASC, DAY(dob) ASC;