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Unit 3 - Week 2

Register for Certification exam

Course outline

How to access the portal

Week 1

Week 2

- Lecture 6 : Introduction to SQL/1
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Week 3

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Assignment Solution

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Week-2 : Assignment-2

Due date for this assignment: 2018-09-05, 23:59 IST.

1) *2 points*

Identify the valid data-types, which can be used in SQL to define the type of data.

Marks: 2 MSQ

- a) varchar
- b) memo
- c) numeric
- d) string

2) *2 points*

Consider the employee table:

```
course(employee id, name, dept name, salary)
```

Create a new emploee 'W-101', named 'Ashwin singh', with 10,00,000 salary for department 'Wireless'. Identify the appropriate SQL. *Marks: 2* MSQ

- a)
```
INSERT INTO TABLE course
VALUES ('W-101','Ashwin Singh','Wireless', 10,00,000)
```
- b)
```
INSERT INTO course
('W-101','Ashwin Singh','Wireless', 10,00,000)
```
- c)
```
INSERT INTO course
VALUES('W-101','Ashwin Singh','Wireless', 10,00,000)
```
- d)
```
INSERT INTO course(employee id, name, dept name, salary) VALUES
('W-101','Ashwin Singh','Wireless', 10,00,000)
```

3) **2 points**

Refer to the following table `student`. Identify the correct, "Create SQL statement" for this table. *Marks: 2* **MCQ**

student			
id	lastname	firstname	courseid
19	Rai	Ranjan	24
19	Singh	Sanjeev	24
20	Roy	Sayantani	24
21	Roy	Suraj	29

a)
```
CREATE TABLE employee (
id int NOT NULL,
lastname varchar(255) NOT NULL,
firstname varchar(255),
age int,
PRIMARY KEY (id));
```

b)
```
CREATE TABLE employee (
id int NOT NULL,
lastname varchar(255) NOT NULL,
firstname varchar(255),
age int,
PRIMARY KEY (id,lastname));
```

c)
```
CREATE TABLE employee (
id int,
lastname varchar(255) NOT NULL,
firstname varchar(255),
age int,
PRIMARY KEY (firstname,lastname));
```

d)
```
CREATE TABLE employee (
id int NOT NULL,
lastname varchar(255) NOT NULL,
firstname varchar(255),
age int,
PRIMARY KEY (lastname));
```

4) **2 points**

Refer to the following table `student`.

student			
id	lastname	firstname	courseid
19	Saha	Ranjan	24
19	Singha	Sanjeev	24
20	Rai	Sayantani	24
21	Raha	Suraj	29

Consider:

```
SELECT *
FROM student
WHERE lastname LIKE '%a';
```

What does above SQL statement select from the `student` table? *Marks: 2* **MCQ**

a) Selects all students with a lastname ending with "a".

b) Selects all students with a lastname starting with "a".

c) Selects all students with a lastname contains atmost one "a".

d) Selects all students with a lastname contains no "a".

5) **2 points**

Identify the correct, "SQL Query" for *Marks: 2* **MSQ**

Find names of employees with years of experience greater than atleast one employee in the Accounts department

a)
```
SELECT name
FROM employee
WHERE years_exp IS GREATER THAN
(SELECT DISTINCT years_exp
FROM employee
WHERE dept_name = 'Accounts');
```

b)
```
SELECT distinct E.name
FROM employee AS E, employee AS F
WHERE E.years_exp >  F.years_exp
AND F.dept_name = 'Accounts';
```

c)
```
SELECT name
FROM employee
WHERE years_exp > GREATER  (SELECT  years_exp
FROM employee
WHERE dept_name = 'Accounts');
```

d)
```
SELECT name
FROM employee
WHERE years_exp > SOME
(SELECT years_exp
FROM employee
WHERE dept_name = 'Accounts');
```

6) **2 points**

Consider the relation schema.

```
weather(city, temperature, humidity, condition)
```

Find the names of cities whose temperature is not in the range of 71 to 89. *Marks: 2* **MCQ**

a)
```
SELECT city FROM weather
WHERE temperature NOT IN (71 to 89)
```

b)
```
SELECT city FROM weather
WHERE temperature NOT IN (71 and 89)
```

c)
```
SELECT city FROM weather
WHERE temperature NOT BETWEEN (71 to 89)
```

d)
```
SELECT city FROM weather
WHERE temperature NOT BETWEEN (71 and 89)
```

7) **2 points**

The student information in a company is stored in the following relation:

```
student(name, sex, course, marks, section)
```

Consider the following SQL query and choose the right option:

```
SELECT  section FROM student
WHERE sex='M'
GROUP BY section
HAVING AVG(marks) > (SELECT AVG(marks) FROM student);
```

Marks: 2 **MCQ**

a) The query returns the `section` in which the average mark of male and female students less than the average mark of all the male students in the school.

b) The query returns the `section` in which the average mark of male students is less th than the average mark of all the male students in the school.

c) The query returns the `section` in which the average mark of male students is more th the average mark of all the male students in the school.

d) The query returns the `section` in which the average mark of male students is more th the average mark of all the students in the school.

8) **2 points**

Refer to the following `CREATE` statements and identify the correct statement(s).

Marks: 2 **MCC**

```
CREATE TABLE students(
    student_id INT PRIMARY KEY,
    student_name VARCHAR(50) NOT NULL,
);

CREATE TABLE course(
    course_id INT PRIMARY KEY,
    student_id INT NOT NULL,
    course_fees INT,
    FOREIGN KEY (student_id)
    REFERENCES students (student_id)
    ON DELETE RESTRICT
);
```

a) If a `student_id` value is deleted from the `students` table, the corresponding records in t `course` table that use this `student_id` will not be deleted.

b) If a `student_id` value is deleted from the `students` table, the corresponding records in t `course` table that use this `student_id` will also be deleted.

c) If a student_id value is deleted from the `students` table, the foreign key constraint v become invalid.

d) If a `student_id` value is deleted from the `students` table, the corresponding records in `course` table that use this `student_id` will be deleted and the foreign key constraint be come invalid.

9) **2 points**

A role `Employee` has the privilege of select, insert, update and delete on all tables of database. A new role `Manager` is created and the following statement

```
grant Manager to Employee;
```

is executed for the `Manager` for setting the access rights.

Which rights will `Employee` inherit? *Marks: 2* **MCQ**

a) Only select

b) Only select and delete

c) Only select, delete and update but not delete

d) All rights - select, delete, update, delete

10) **2 points**

company

comp_id	comp_name	comp_city
18	Order All	Boston
15	Jack Hill Ltd	London
16	Akas Foods	Delhi
17	Foodies.	London
19	sip-n-Bite.	New York

foods

item_id	item_name	item_unit	comp_id
6	Cheez-It	Pcs	15
2	BN Biscuit	Pcs	15
3	Mighty Munch	Pcs	16
4	Pot Rice	Pcs	15
5	Jaffa Cakes	Pcs	18
7	Salt n Shake	Pcs	17
8	Marie Biscuit	Pcs	20

An operation on these two relation produce the following output.

output

comp_id	comp_name	comp_city	item_id	item_name	item_unit
18	Order All	Boston	5	Jaffa Cakes	Pcs
15	Jack Hill Ltd	London	6	Cheez-It	Pcs
15	Jack Hill Ltd	London	2	BN Biscuit	Pcs
15	Jack Hill Ltd	London	4	Pot Rice	Pcs
16	Akas Foods	Delhi	3	Chex Mix	Pcs
17	Foodies.	London	7	Mighty Munch	Pcs
19	sip-n-Bite.	New York			

Identify the operation. *Marks: 2* **MCQ**

a) `company NATURAL LEFT OUTER JOIN foods`

b) `company NATURAL INNER JOIN foods`

c) `company NATURAL RIGHT OUTER JOIN foods`

d) `company NATURAL FULL OUTER JOIN foods`

You may submit any number of times before the due date. The final submission will be considered for grading.

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