Database Assignment 1

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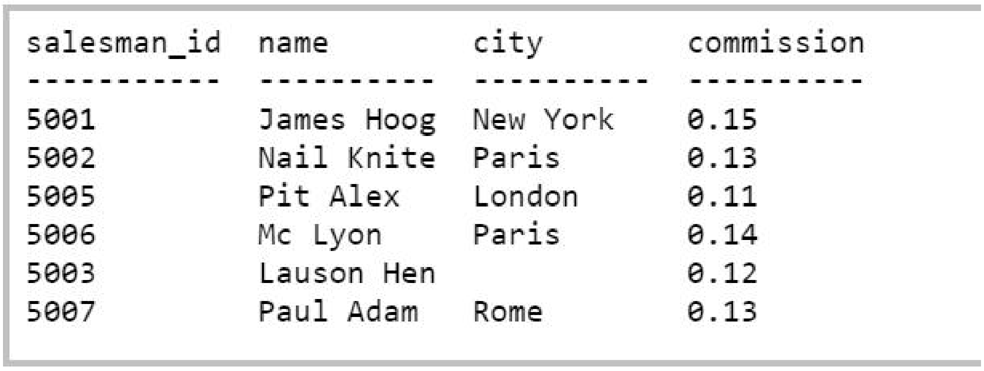
1. Write a SQL statement to display all the information of all salesmen for the following table salesman.



```
salesman_id  name        city        commission
-----------  ----------  ----------  ----------
5001         James Hoog  New York    0.15
5002         Nail Knite  Paris       0.13
5005         Pit Alex    London      0.11
5006         Mc Lyon     Paris       0.14
5003         Lauson Hen              0.12
5007         Paul Adam   Rome        0.13
```

Ans:-SELECT * FROM salesman;

2. Write a SQL statement to display a string "This is SQL Exercise, Practice and Solution".

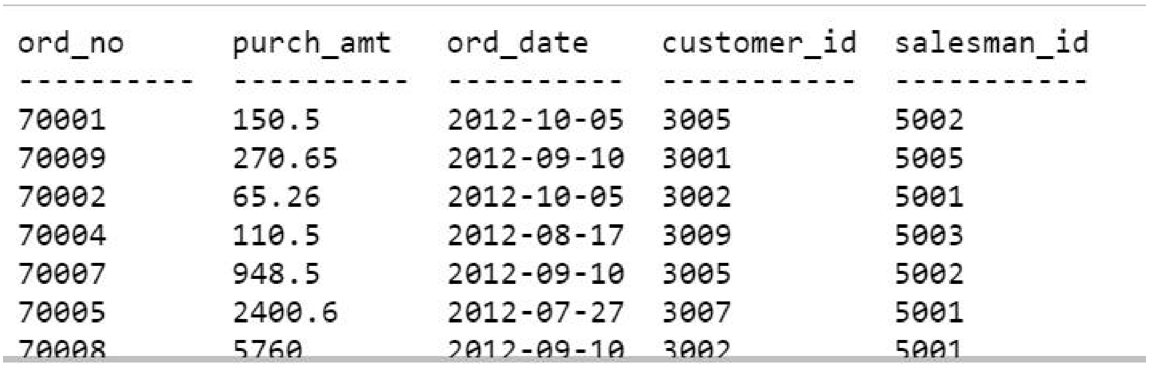
Ans:-SELECT "This is SQL Exercise, Practice and Solution";

3. Write a query to display the result of an arithmetic expression.

   For example the result of expression 9*10+4

Ans:-SELECT 9*10+4 ;

4. Write a query to display ord_date, salesman_id, customer_id, order no, and purchase amount in the sequence from following orders table.



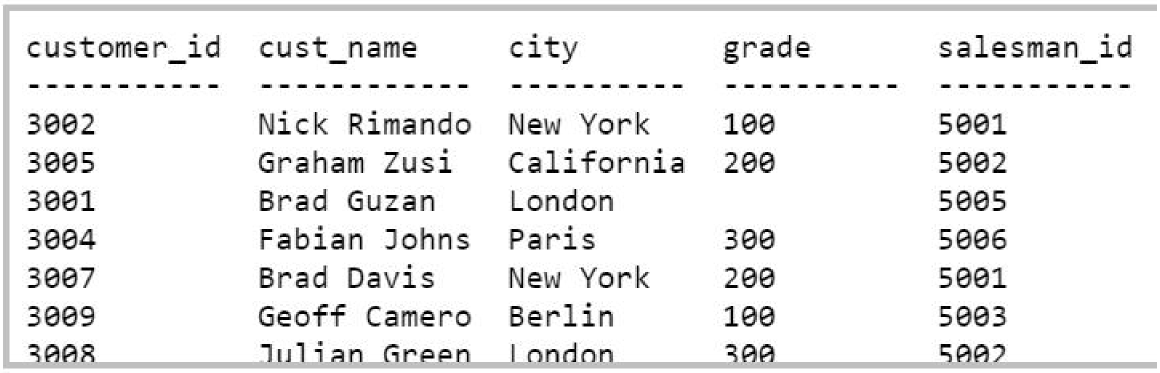
```
ord_no      purch_amt   ord_date    customer_id  salesman_id
----------  ----------  ----------  -----------  -----------
70001       150.5       2012-10-05  3005         5002
70009       270.65      2012-09-10  3001         5005
70002       65.26       2012-10-05  3002         5001
70004       110.5       2012-08-17  3009         5003
70007       948.5       2012-09-10  3005         5002
70005       2400.6      2012-07-27  3007         5001
70008       5760        2012-09-10  3002         5001
```

Ans:-SELECT ord_date, salesman_id, ord_no, purch_amt FROM orders;

5. For the above table display salesman_id for all the salesman without repetitive value of the salesman_id.

Ans:-SELECT DISTINCT salesman_id FROM orders;

6. Write a SQL statement to display all the information for those customers with a grade of 200.



```
customer_id  cust_name     city        grade       salesman_id
-----------  ------------  ----------  ----------  -----------
3002         Nick Rimando  New York    100         5001
3005         Graham Zusi   California  200         5002
3001         Brad Guzan    London                  5005
3004         Fabian Johns  Paris       300         5006
3007         Brad Davis    New York    200         5001
3009         Geoff Camero  Berlin      100         5003
3008         Julian Green  London      300         5002
```

Ans:-SELECT *FROM customer WHERE grade=200;

7. List the number, name, credit limit, and balance for customers with credit limits that exceed their balances. (Where table attributes are number,name,credit limit and balance).

Ans:- SELECT number,name, credit_limit ,balance FROM Customer WHERE credit_limit>balance

8. Create a table which consists of attributes warehouse id,warehouse branch address,customers numbers and balance for each warehouse. Then List the description of all parts that are not in warehouse 3.

Ans:- CREATE TABLE warehouse(id INT PRIMARY KEY NOT NULL, branch_address VARCHAR(40),customer_number INT, balance FLOAT(30));
SELECT* FROM warehouse WHERE id <3 and id>3;

9. Explain the following terms briefly: attribute, domain, entity, relationship, entity set, relationship set, one-to-many relationship, many-to-many relationship, overlap constraint, and weak entity set.

Ans:- **Attribute** - a property or description of an entity. A toy department employee entity could have attributes describing the employee's name, salary, and years of service.

Domain - a set of possible values for an attribute.

Entity - an object in the real world that is distinguishable from other objects such as the green dragon toy. Relationship - an association among two or more entities.

Entity set - a collection of similar entities such as all of the toys in the toy department.

Relationship set - a collection of similar relationships

One-to-many relationship - a key constraint that indicates that one entity can be associated with many of another entity.

Many-to-many relationship - a key constraint that indicates that many of one entity can be associated with many of another entity.

Overlap constraint - within an ISA hierarchy, an overlap constraint determines whether or not two subclasses can contain the same entity.

Weak entity set - an entity that cannot be identified uniquely without considering some primary key attributes of another identifying owner entity.

10. What is a foreign key constraint?

Ans:-

A foreign key is a column (or combination of columns) in a table whose values must match values of a column in some other table. FOREIGN KEY constraints enforce referential integrity, which essentially says that if column value A refers to column value B, then column value B must exist.

11. Answer each of the following questions briefly. The questions are based on the following relational schema:

Emp(eid: integer, ename: string, age: integer, salary: real)

Works(eid: integer, did: integer, pcttime: integer)

Dept(did: integer, dname: string, budget: real, managerid: integer)

a. . Give an example of a foreign key constraint that involves the Dept relation. What are the options for enforcing this constraint when a user attempts to delete a Dept tuple?

Ans:- CREATE TABLE Works (eid INTEGER NOT NULL , did INTEGER NOT NULL , pcttime INTEGER, PRIMARY KEY (eid, did), UNIQUE (eid), FOREIGN KEY (did) REFERENCES Dept)

b. Write the SQL statements required to create the preceding relations, including appropriate versions of all primary and foreign key integrity constraints.

Ans:-

CREATE TABLE Emp (eid INTEGER, ename CHAR(10), age INTEGER, salary REAL, PRIMARY KEY (eid))

CREATE TABLE Works (eid INTEGER, did INTEGER, pcttime INTEGER, PRIMARY KEY (eid, did), FOREIGN KEY (did) REFERENCES Dept, FOREIGN KEY (eid) REFERENCES Emp, ON DELETE CASCADE)

CREATE TABLE Dept (did INTEGER, budget REAL, managerid INTEGER , PRIMARY KEY (did), FOREIGN KEY (managerid) REFERENCES Emp, ON DELETE SET NULL)

c. Define the Dept relation in SQL so that every department is guaranteed to have a manager.

Ans:-

CREATE TABLE Dept (did INTEGER, budget REAL, managerid INTEGER NOT NULL , PRIMARY KEY (did), FOREIGN KEY (managerid) REFERENCES Emp)

d. Write an SQL statement to add John Doe as an employee with eid = 101, age = 32 and salary = 15, 000.

Ans:- INSERT INTO Emp (eid, ename, age, salary) VALUES (101, ’John Doe’, 32, 15000)

e. Write an SQL statement to give every employee a 10 percent raise.

Ans:- UPDATE Emp E SET E.salary = E.salary * 1.10

f. Write an SQL statement to delete the Toy department.

Ans:- DELETE FROM Dept D WHERE D.dname = ’Toy’