

ASSIGNMENT-4

DBMS LAB

Subhajit Samanta

2020CSB046

- CREATION OF TABLES:

Creation of ZIPCODES Table:

```
create table ZIPCODES  
(ZIP int(5) PRIMARY KEY,  
CITY varchar(30));
```

Inserting Values in ZIPCODES Table:

```
INSERT into ZIPCODES  
values  
(67226,'wichita'),  
(60606,'fort dodge'),  
(50302,'kansas city'),  
(54444,'columbia'),  
(66006,'libaral'),  
(61111,'fort hays'),  
(65222,'diamond'),  
(63111,'kolkata'),  
(60706,'patna'),  
(61818,'delhi');
```

ZIPCODES table after insertion of values:

```
mysql> select *  
-> from ZIPCODES;  
+-----+-----+  
| ZIP   | CITY      |  
+-----+-----+  
| 50302 | kansas city |  
| 54444 | columbia   |  
| 60606 | fort dodge  |  
| 60706 | patna      |  
| 61111 | fort hays   |  
| 61818 | delhi      |  
| 63111 | kolkata    |  
| 65222 | diamond    |  
| 66006 | libaral    |  
| 67226 | wichita    |  
+-----+-----+
```

Creation of EMPLOYEES table:

```
create table EMPLOYEES
(ENO int(4) PRIMARY KEY,
ENAME varchar(30),
ZIP int(5),
HDATE date,
constraint ZIP foreign key(ZIP) references ZIPCODES(ZIP) on delete cascade);
```

Inserting values in EMPLOYEES table:

```
INSERT into EMPLOYEES
values
(1000,'jones', 67226 , '1995-12-12'),
(1001 , 'smith', 60606 , '1994-09-01'),
(1002 , 'brown', 50302 , '1994-09-01'),
(1003 , 'bapi', 54444 , '1997-11-21'),
(1005 , 'komal', 61111 , '1999-01-05'),
(1004 , 'sanjit', 54444 , '1985-02-10'),
(1006 , 'ramanath', 66006 , '1985-05-07'),
(1007 , 'pasupati', 61111 , '1985-03-03'),
(1008 , 'uttam', 65222 , '1984-09-06'),
(1009 , 'arup', 63111 , '1984-01-31'),
(1010 , 'biplab', 60706 , '1984-03-22'),
(1011 , 'umpa', 61818 , '1991-03-21'),
(1012 , 'mamoni', 67226 , '1988-03-13'),
(1013 , 'anjali', 60706 , '1992-03-22'),
(1014 , 'marium', 61818 , '1993-03-22'),
(1015 , 'falguni', 61818 , '1988-03-11');
```

EMPLOYEES table after insertion of values:

```
mysql> select *
-> from EMPLOYEES;
```

ENO	ENAME	ZIP	HDATE
1000	jones	67226	1995-12-12
1001	smith	60606	1994-09-01
1002	brown	50302	1994-09-01
1003	bapi	54444	1997-11-21
1004	sanjit	54444	1985-02-10
1005	komal	61111	1999-01-05
1006	ramanath	66006	1985-05-07
1007	pasupati	61111	1985-03-03
1008	uttam	65222	1984-09-06
1009	arup	63111	1984-01-31
1010	biplab	60706	1984-03-22
1011	umpa	61818	1991-03-21
1012	mamoni	67226	1988-03-13
1013	anjali	60706	1992-03-22
1014	marium	61818	1993-03-22
1015	falguni	61818	1988-03-11

Creation of table PARTS:

```
CREATE table PARTS
(PNO int(5) PRIMARY KEY,
PNAME varchar(30),
QOH int(3),
PRICE double(6,3),
OLEVEL int(2));
```

Inserting values in table PARTS:

```
INSERT into PARTS
values
(10506, 'land before time 1', 200, 17.99, 20),
(10507, 'land before time 2', 156, 17.99, 20),
(10508, 'land before time 3', 190, 17.99, 20),
(10509, 'land before time 4', 60, 17.99, 20),
(10601, 'Nut', 300, 24.99, 30),
(10602, 'Bolt', 120, 17.99, 30),
(10603, 'Screw', 140, 13.49, 30),
(10800, 'Driller', 100, 24.99, 30);
```

PARTS table after insertion of values:

```
mysql> select *
-> from PARTS;
```

PNO	PNAME	QOH	PRICE	OLEVEL
10506	land before time 1	200	17.990	20
10507	land before time 2	156	17.990	20
10508	land before time 3	190	17.990	20
10509	land before time 4	60	17.990	20
10601	Nut	300	24.990	30
10602	Bolt	120	17.990	30
10603	Screw	140	13.490	30
10800	Driller	100	24.990	30

Creation of table CUSTOMERS:

```
CREATE table CUSTOMERS
(CNO int(4) PRIMARY KEY,
CNAME varchar(30),
STREET varchar(30),
ZIP int(5),
PHONE int(10),
constraint Z foreign key(ZIP) references ZIPCODES(ZIP) on delete cascade);
```

Inserting values in CUSTOMERS:

```
INSERT into CUSTOMERS
values
(1111, 'charles', '123 main st.', 67226, 316636),
(2222, 'amina', '124 lane 11', 60606, 24203227),
(3333, 'soma', '224 main st.', 54444, 24203270),
(4444, 'rita', '321 lane 13', 66006, 24219706),
(5555, 'bhaswati', '543 main st.', 50302, 32157654),
(6666, 'santu', '432 main st', 61111, 5432167),
(7777, 'manas', '432 lane 17', 61111, 5432167),
(8888, 'monirul', '765 main st.', 65222, 4321566),
(9999, 'tapan', '654 lane 19', 63111, 5432156),
(1000, 'dipu', '543 main st.', 60706, 9876543),
(9988, 'barun', '657 lane 12', 61818, 9876543);
```

CUSTOMERS table after insertion of values:

```
mysql> select *
-> from CUSTOMERS;
```

CNO	CNAME	STREET	ZIP	PHONE
1000	dipu	543 main st.	60706	9876543
1111	charles	123 main st.	67226	316636
2222	amina	124 lane 11	60606	24203227
3333	soma	224 main st.	54444	24203270
4444	rita	321 lane 13	66006	24219706
5555	bhaswati	543 main st.	50302	32157654
6666	santu	432 main st	61111	5432167
7777	manas	432 lane 17	61111	5432167
8888	monirul	765 main st.	65222	4321566
9988	barun	657 lane 12	61818	9876543
9999	tapan	654 lane 19	63111	5432156

Creation of table ORDERS:

```
CREATE table ORDERS
(ONO int(4) PRIMARY KEY,
CNO int(4),
ENO int(4),
RECIEVED date,
SHIPPED date,
constraint CNO foreign key(CNO) references CUSTOMERS(CNO) on delete cascade,
constraint ENO foreign key(ENO) references EMPLOYEES(ENO) on delete cascade);
```

Inserting values in table ORDERS:

```
INSERT into ORDERS
values
(1020, 1111, 1000, '1994-12-10', '1994-12-12'),
(1021, 1111, 1000, '1995-01-12', '1995-01-15'),
(1022, 2222, 1001, '1997-01-20', Null),
(1023, 3333, 1002, '1998-04-13', '1998-04-29'),
(1024, 4444, 1003, '1996-03-11', '1996-03-13'),
(1025, 5555, 1004, '1996-03-11', '1996-03-12'),
(1026, 5555, 1004, '1998-05-31', '1998-01-08'),
(1027, 8888, 1006, '1995-05-23', '1993-03-23'),
(1028, 7777, 1007, '1984-05-17', '1983-12-18'),
(1029, 3333, 1008, '1992-12-13', '1993-09-18'),
(1030, 2222, 1010, '1983-04-30', '1985-09-17'),
(1031, 1000, 1011, '1993-05-26', '1985-04-16'),
(1032, 1111, 1012, '1986-04-15', '2005-01-31'),
(1033, 9988, 1013, '2000-04-18', '2005-04-18'),
(1034, 9988, 1014, '2005-02-08', '2005-02-18'),
(1035, 1111, 1015, '2005-04-18', Null);
```

ORDERS table after insertion of values:

ONO	CNO	ENO	RECIEVED	SHIPPED
1020	1111	1000	1994-12-10	1994-12-12
1021	1111	1000	1995-01-12	1995-01-15
1022	2222	1001	1997-01-20	NULL
1023	3333	1002	1998-04-13	1998-04-29
1024	4444	1003	1996-03-11	1996-03-13
1025	5555	1004	1996-03-11	1996-03-12
1026	5555	1004	1998-05-31	1998-01-08
1027	8888	1006	1995-05-23	1993-03-23
1028	7777	1007	1984-05-17	1983-12-18
1029	3333	1008	1992-12-13	1993-09-18
1030	2222	1010	1983-04-30	1985-09-17
1031	1000	1011	1993-05-26	1985-04-16
1032	1111	1012	1986-04-15	2005-01-31
1033	9988	1013	2000-04-18	2005-04-18
1034	9988	1014	2005-02-08	2005-02-18
1035	1111	1015	2005-04-18	NULL

Creation of table ODETAILS:

```
CREATE TABLE ODETAILS
(ONO int(4),
PNO int(5),
QTY int(3),
PRIMARY KEY(ONO,PNO),
constraint ONO foreign key(ONO) references ORDERS(ONO) on delete cascade,
constraint PNO foreign key(PNO) references PARTS(PNO) on delete cascade);
```

Inserting values in table ODETAILS:

```
INSERT into ODETAILS
values
(1034, 10506, 7),
(1020, 10507, 5),
(1022 ,10507, 6),
(1029 ,10508, 5),
(1026 ,10509, 9),
(1029, 10507, 3),
(1021 ,10800, 2),
(1035 ,10601, 5),
(1033 ,10602, 8),
(1032 ,10509, 7),
(1031 ,10603, 1);
```

ODETAILS table after insertion of values:

```
mysql> select *
-> from ODETAILS;
```

ONO	PNO	QTY
1020	10507	5
1021	10800	2
1022	10507	6
1026	10509	9
1029	10507	3
1029	10508	5
1031	10603	1
1032	10509	7
1033	10602	8
1034	10506	7
1035	10601	5

- QUERIES:

1. Get PNO values for PARTS for which ORDERES have been placed.

```
SELECT distinct PNO  
FROM ODETAILS;
```

```
mysql> SELECT distinct PNO  
-> FROM ODETAILS;  
+-----+  
| PNO   |  
+-----+  
| 10506 |  
| 10507 |  
| 10508 |  
| 10509 |  
| 10601 |  
| 10602 |  
| 10603 |  
| 10800 |  
+-----+
```

2. Get all the details of CUSTOMERS whose name has being letter 's'.

```
SELECT *  
FROM CUSTOMERS  
WHERE CNAME like 's%';
```

```
mysql> SELECT *  
-> FROM CUSTOMERS  
-> WHERE CNAME like 's%';  
+-----+-----+-----+-----+-----+  
| CNO  | CNAME | STREET      | ZIP   | PHONE   |  
+-----+-----+-----+-----+-----+  
| 3333 | soma  | 224 main st. | 54444 | 24203270 |  
| 6666 | santu | 432 main st  | 61111 | 5432167  |  
+-----+-----+-----+-----+-----+
```

3. Get PNO and PNAME values of PARTS that are priced less than 19.99.

```
SELECT PNO,PNAME  
FROM PARTS  
WHERE PRICE<19.99;
```

```
mysql> SELECT PNO,PNAME  
-> FROM PARTS  
-> WHERE PRICE<19.99;  
+-----+-----+  
| PNO  | PNAME      |  
+-----+-----+  
| 10506 | land before time 1 |  
| 10507 | land before time 2 |  
| 10508 | land before time 3 |  
| 10509 | land before time 4 |  
| 10602 | Bolt        |  
| 10603 | Screw       |  
+-----+-----+  
6 rows in set (0.00 sec)
```

4. Get the ONO, CNAME and SHIPPED values for CUSTOMERS whose orders have not yet been shipped.

```
SELECT ONO,CNAME
FROM ORDERS O,CUSTOMERS C
WHERE O.CNO=C.CNO AND SHIPPED is NULL;
```

```
mysql> SELECT ONO,CNAME
-> FROM ORDERS O,CUSTOMERS C
-> WHERE O.CNO=C.CNO AND SHIPPED is NULL;
+-----+-----+
| ONO | CNAME |
+-----+-----+
| 1022 | amina |
| 1035 | charles |
+-----+-----+
```

5. Get PNAME and PRICE value from PARTS with the lowest PRICE.

```
SELECT PNAME,PRICE
FROM PARTS
ORDER BY PRICE
LIMIT 1;
```

```
mysql> SELECT PNAME,PRICE
-> FROM PARTS
-> ORDER BY PRICE
-> LIMIT 1;
+-----+-----+
| PNAME | PRICE |
+-----+-----+
| Screw | 13.490 |
+-----+-----+
```

6. Get the PNAME and PRICE values of PARTS that cost less than the least expensive 'land before time' part.

```
SELECT PNAME,PRICE
FROM PARTS
WHERE PRICE<(
SELECT min(PRICE)
FROM PARTS
WHERE PNAME like 'land before time %');
```

```
mysql> SELECT PNAME,PRICE
-> FROM PARTS
-> WHERE PRICE<(
-> SELECT min(PRICE)
-> FROM PARTS
-> WHERE PNAME like 'land before time %');
+-----+-----+
| PNAME | PRICE |
+-----+-----+
| Screw | 13.490 |
+-----+-----+
```

7. Get the ENO values of EMPLOYEES from 'Fort Dodge'.

```
SELECT ENO
FROM ZIPCODES Z,EMPLOYEES E
WHERE Z.ZIP=E.ZIP AND CITY='fort dodge';
```

```
mysql> SELECT ENO
-> FROM ZIPCODES Z,EMPLOYEES E
-> WHERE Z.ZIP=E.ZIP AND CITY='fort dodge';
+-----+
| ENO |
+-----+
| 1001 |
+-----+
```

8. Get the ENAME and HDATE of the EMPLOYEES who was hired on the earliest date.

```
SELECT ENAME,HDATE
FROM EMPLOYEES
ORDER BY HDATE
LIMIT 1;
```

```
mysql> SELECT ENAME,HDATE
-> FROM EMPLOYEES
-> ORDER BY HDATE
-> LIMIT 1;
```

ENAME	HDATE
arup	1984-01-31

9. Retrieve the PNO, PNAME and PRICE of PARTS with price greater than 20.00 in an ascending order of PNO.

```
SELECT PNO,PNAME,PRICE
FROM PARTS
WHERE PRICE>20.00
ORDER BY PNO;
```

```
mysql> SELECT PNO,PNAME,PRICE
-> FROM PARTS
-> WHERE PRICE>20.00
-> ORDER BY PNO;
```

PNO	PNAME	PRICE
10601	Nut	24.990
10800	Driller	24.990

10. For each PARTS get PNO and PNAME values along with total sales in details.

```
SELECT P.PNO,P.PNAME,FORMAT(SUM(QTY*PRICE),2) TOTAL_SALES
FROM PARTS P,ODETAILS O
WHERE P.PNO=O.PNO
GROUP by PNO;
```

```
mysql> SELECT P.PNO,P.PNAME,FORMAT(SUM(QTY*PRICE),2) TOTAL_SALES
-> FROM PARTS P,ODETAILS O
-> WHERE P.PNO=O.PNO
-> GROUP by PNO;
```

PNO	PNAME	TOTAL_SALES
10506	land before time 1	125.93
10507	land before time 2	251.86
10508	land before time 3	89.95
10509	land before time 4	287.84
10601	Nut	124.95
10602	Bolt	143.92
10603	Screw	13.49
10800	Driller	49.98

11. For each PARTS get PNO and PNAME values along with total sales in rupees but only when the total sales exceed 100.53.

```
SELECT P.PNO,P.PNAME,CONCAT('Rs. ',FORMAT(SUM(QTY*PRICE),2)) TOTAL_SALES
FROM PARTS P,ODETAILS O
WHERE P.PNO=O.PNO
GROUP BY PNO
HAVING SUM(QTY*PRICE)>100.53;
```

```
mysql> SELECT P.PNO,P.PNAME,CONCAT('Rs. ',FORMAT(SUM(QTY*PRICE),2)) TOTAL_SALES
-> FROM PARTS P,ODETAILS O
-> WHERE P.PNO=O.PNO
-> GROUP BY PNO
-> HAVING SUM(QTY*PRICE)>100.53;
```

PNO	PNAME	TOTAL_SALES
10506	land before time 1	Rs. 125.93
10507	land before time 2	Rs. 251.86
10509	land before time 4	Rs. 287.84
10601	Nut	Rs. 124.95
10602	Bolt	Rs. 143.92

12. Change the name of the CITY 'columbia' to 'parth'.

```
UPDATE ZIPCODES  
SET CITY='parth'  
WHERE CITY='columbia';
```

```
mysql> UPDATE ZIPCODES  
-> SET CITY='parth'  
-> WHERE CITY='columbia';  
Query OK, 1 row affected (0.01 sec)  
Rows matched: 1 Changed: 1 Warnings: 0
```

```
mysql> select *  
-> from ZIPCODES;
```

ZIP	CITY
50302	kansas city
54444	parth
60606	fort dodge
60706	patna
61111	fort hays
61818	delhi
63111	kolkata
65222	diamond
66006	libaral
67226	wichita

13. Update all the null valued SHIPPED dates to the current date.

```
UPDATE ORDERS
SET SHIPPED=SYSDATE()
WHERE SHIPPED is NULL;
```

```
mysql> UPDATE ORDERS
-> SET SHIPPED=SYSDATE()
-> WHERE SHIPPED is NULL;
Query OK, 2 rows affected, 2 warnings (0.01 sec)
Rows matched: 2  Changed: 2  Warnings: 2

mysql> select *
-> from ORDERS;
```

ONO	CNO	ENO	RECIEVED	SHIPPED
1020	1111	1000	1994-12-10	1994-12-12
1021	1111	1000	1995-01-12	1995-01-15
1022	2222	1001	1997-01-20	2022-09-07
1023	3333	1002	1998-04-13	1998-04-29
1024	4444	1003	1996-03-11	1996-03-13
1025	5555	1004	1996-03-11	1996-03-12
1026	5555	1004	1998-05-31	1998-01-08
1027	8888	1006	1995-05-23	1993-03-23
1028	7777	1007	1984-05-17	1983-12-18
1029	3333	1008	1992-12-13	1993-09-18
1030	2222	1010	1983-04-30	1985-09-17
1031	1000	1011	1993-05-26	1985-04-16
1032	1111	1012	1986-04-15	2005-01-31
1033	9988	1013	2000-04-18	2005-04-18
1034	9988	1014	2005-02-08	2005-02-18
1035	1111	1015	2005-04-18	2022-09-07

14. Decrease the PRICE of all PARTS that cost less than 24.00 by 10%.

```
UPDATE PARTS
SET PRICE=PRICE-PRICE*0.1
WHERE PRICE<24.00;
```

```
mysql> UPDATE PARTS
-> SET PRICE=PRICE-PRICE*0.1
-> WHERE PRICE<24.00;
Query OK, 6 rows affected (0.01 sec)
Rows matched: 6 Changed: 6 Warnings: 0
```

```
mysql> select *
-> from PARTS;
```

PNO	PNAME	QOH	PRICE	OLEVEL
10506	land before time 1	200	16.191	20
10507	land before time 2	156	16.191	20
10508	land before time 3	190	16.191	20
10509	land before time 4	60	16.191	20
10601	Nut	300	24.990	30
10602	Bolt	120	16.191	30
10603	Screw	140	12.141	30
10800	Driller	100	24.990	30

15. Set the 'QOH' value of those PARTS who's current 'QOH' value is less than 100 to the maximum 'QOH' value present in the table.

```
UPDATE PARTS
SET QOH=(
SELECT max(QOH)
FROM(
SELECT QOH
FROM PARTS)
AS T)
WHERE QOH<100;
```

```
mysql> UPDATE PARTS
-> SET QOH=(
-> SELECT max(QOH)
-> FROM(
-> SELECT QOH
-> FROM PARTS)
-> AS T)
-> WHERE QOH<100;
Query OK, 1 row affected (0.01 sec)
Rows matched: 1  Changed: 1  Warnings: 0

mysql> select *
-> from PARTS;
```

PNO	PNAME	QOH	PRICE	OLEVEL
10506	land before time 1	200	16.191	20
10507	land before time 2	156	16.191	20
10508	land before time 3	190	16.191	20
10509	land before time 4	300	16.191	20
10601	Nut	300	24.990	30
10602	Bolt	120	16.191	30
10603	Screw	140	12.141	30
10800	Driller	100	24.990	30