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BS(Computer Science)

Section - 4A

LAB no. (6)

6.1 Views

CREATE VIEW EMP_WORKED AS

SELECT E.EMP_LNAME, E.EMP_FNAME, H.ATTRACT_NO, H.DATE_WORKED

FROM employee E JOIN hours H

ON E.EMP_NUM = H.EMP_NUM;

```
mysql> CREATE VIEW EMP_WORKED AS
-> SELECT E.EMP_LNAME, E.EMP_FNAME, H.ATTRACT_NO, H.DATE_WORKED
-> FROM employee E JOIN hours H
-> ON E.EMP_NUM = H.EMP_NUM;
Query OK, 0 rows affected (0.32 sec)
```

```
mysql> SELECT * FROM EMP_WORKED;
```

EMP_LNAME	EMP_FNAME	ATTRACT_NO	DATE_WORKED
Calderdale	Emma	10034	2007-05-18
Calderdale	Emma	10034	2007-05-20
Ricardo	Marshall	10034	2007-05-18
Arshad	Arif	30012	2007-05-23
Arshad	Arif	30044	2007-05-21
Arshad	Arif	30044	2007-05-22
Denver	Enrica	30011	2007-05-21
Denver	Enrica	30012	2007-05-22
Namowa	Mirrelle	10078	2007-05-18
Namowa	Mirrelle	10098	2007-05-18
Namowa	Mirrelle	10098	2007-05-19

```
11 rows in set (0.10 sec)
```

6.2 Views – using the WITH CHECK OPTION

```
CREATE VIEW EMPFR AS

SELECT *

FROM EMPLOYEE

WHERE PARK_CODE = "FR1001"

WITH CHECK OPTION;
```

```
mysql> CREATE VIEW EMPFR AS
-> SELECT *
-> FROM EMPLOYEE
-> WHERE PARK_CODE = "FR1001"
-> WITH CHECK OPTION;
ERROR 1050 (42S01): Table 'EMPFR' already exists
mysql> select * from empfr;
```

EMP_NUM	EMP_TITLE	EMP_LNAME	EMP_FNAME	EMP_DOB	EMP_HIRE_DATE	EMP_AREA_CODE	EMP_PHONE	PARK_CODE
100	Ms	Calderdale	Emma	1972-06-15	1992-03-15	0181	324-9134	FR1001
102	Mr	Arshad	Arif	1969-11-14	1990-12-20	7253	675-8993	FR1001
105	Ms	Namowa	Mirrelle	1990-03-14	2006-11-08	0181	890-3243	FR1001

```
3 rows in set (0.09 sec)
```

UPDATING EMPFR

```
UPDATE EMPFR

SET PARK_CODE = "UK3452"

WHERE EMP_NUM = 100;
```

```
mysql> UPDATE EMPFR
-> SET PARK_CODE = "UK3452"
-> WHERE EMP_NUM = 100;
ERROR 1369 (HY000): CHECK OPTION failed 'themepark.empfr'
```

This is because if the update was to occur, the view would no longer be able to see this employee.

6.3 Date and Time Functions

```
SELECT DISTINCT(SALE_DATE ) FROM SALES;
```

```
mysql> SELECT DISTINCT(SALE_DATE )
-> FROM SALES;
+-----+
| SALE_DATE |
+-----+
| 2007-05-18 |
+-----+
1 row in set (0.18 sec)
```

SELECT DISTINCT(DATE_FORMAT(SALE_DATE, "%D %b %Y")) FROM SALES;

```
mysql> SELECT DISTINCT(DATE_FORMAT(SALE_DATE, "%D %b %Y")) FROM SALES;
+-----+
| (DATE_FORMAT(SALE_DATE, "%D %b %Y")) |
+-----+
| 18th May 2007 |
+-----+
1 row in set (0.06 sec)
```

Task 6.3 Enter the following query to display today's date and time.

SELECT CURRENT_DATE(), CURRENT_TIME();

```
mysql> SELECT CURRENT_DATE(), CURRENT_TIME();
+-----+-----+
| CURRENT_DATE() | CURRENT_TIME() |
+-----+-----+
| 2021-04-10 | 12:28:44 |
+-----+-----+
1 row in set (0.09 sec)
```

Use of (DAYOFMONTH(date)), (MONTH(date)), (YEAR(date))

SELECT DAYOFMONTH(EMP_DOB) AS "Day", MONTH(EMP_DOB) AS "Month", YEAR(EMP_DOB) AS "Year" FROM EMPLOYEE;

```
mysql> SELECT DAYOFMONTH(EMP_DOB) AS "Day", MONTH(EMP_DOB) AS "Month", YEAR(EMP_DOB) AS "Year" FROM EMPLOYEE;
+-----+-----+-----+
| Day | Month | Year |
+-----+-----+-----+
| 15 | 6 | 1972 |
| 19 | 3 | 1978 |
| 14 | 11 | 1969 |
| 16 | 10 | 1974 |
| 8 | 11 | 1980 |
| 14 | 3 | 1990 |
| 12 | 2 | 1968 |
+-----+-----+-----+
7 rows in set (0.01 sec)
```

Task 6.4

```
select emp_Lname, emp_Fname, emp_DOB,  
    -> date_format(emp_dob, "%b") as month  
    -> from employee  
    -> where month(emp_dob) = "11";
```

```
mysql> select emp_Lname, emp_Fname, emp_DOB,  
    -> date_format(emp_dob, "%b") as month  
    -> from employee  
    -> where month(emp_dob) = "11";  
+-----+-----+-----+-----+  
| emp_Lname | emp_Fname | emp_DOB   | month |  
+-----+-----+-----+-----+  
| Arshad    | Arif      | 1969-11-14 | Nov   |  
| Denver    | Enrica     | 1980-11-08 | Nov   |  
+-----+-----+-----+-----+  
2 rows in set (0.05 sec)
```

DATEDIFF:

```
SELECT DATEDIFF("2008-12-25", "2008-01-01");
```

```
mysql> SELECT DATEDIFF("2008-12-25", "2008-01-01");  
+-----+  
| DATEDIFF("2008-12-25", "2008-01-01") |  
+-----+  
| 359 |  
+-----+  
1 row in set (0.03 sec)
```

Task 6.5

```
SELECT DATEDIFF(current_date(), "2009-12-25");
```

```
mysql> SELECT DATEDIFF(current_date(), "2009-12-25");  
+-----+  
| DATEDIFF(current_date(), "2009-12-25") |  
+-----+  
| 4124 |  
+-----+  
1 row in set (0.00 sec)
```

ADDDATE

```
SELECT ADDDATE("2008-01-01", INTERVAL 11 MONTH);
```

```
mysql> SELECT ADDDATE("2008-01-01", INTERVAL 11 MONTH );
+-----+
| ADDDATE("2008-01-01", INTERVAL 11 MONTH ) |
+-----+
| 2008-12-01 |
+-----+
1 row in set (0.06 sec)
```

TASK 6.6

SELECT EMP_LNAME, EMP_FNAME, EMP_HIRE_DATE, ADDDATE(EMP_HIRE_DATE, INTERVAL 12 MONTH)AS "FIRST APPRAISAL" FROM EMPLOYEE;

```
mysql> SELECT EMP_LNAME, EMP_FNAME, EMP_HIRE_DATE,
-> ADDDATE(EMP_HIRE_DATE, INTERVAL 12 MONTH )AS "FIRST APPRAISAL"
-> FROM EMPLOYEE;
+-----+-----+-----+-----+
| EMP_LNAME | EMP_FNAME | EMP_HIRE_DATE | FIRST APPRAISAL |
+-----+-----+-----+-----+
| Calderdale | Emma | 1992-03-15 | 1993-03-15 |
| Ricardo | Marshel | 1996-04-25 | 1997-04-25 |
| Arshad | Arif | 1990-12-20 | 1991-12-20 |
| Roberts | Anne | 1994-08-16 | 1995-08-16 |
| Denver | Enrica | 2001-10-20 | 2002-10-20 |
| Namowa | Mirrelle | 2006-11-08 | 2007-11-08 |
| Smith | Gemma | 1989-01-05 | 1990-01-05 |
+-----+-----+-----+-----+
7 rows in set (0.00 sec)
```

Task 6.7

SELECT * FROM SALES WHERE SALE_DATE >= LAST_DAY(SALE_DATE)-20;

```
mysql> SELECT *
-> FROM SALES
-> WHERE SALE_DATE >= LAST_DAY(SALE_DATE)-20;
```

TRANSACTION_NO	PARK_CODE	SALE_DATE
12781	FR1001	2007-05-18
12782	FR1001	2007-05-18
12783	FR1001	2007-05-18
12784	FR1001	2007-05-18
12785	FR1001	2007-05-18
12786	FR1001	2007-05-18
34534	UK3452	2007-05-18
34535	UK3452	2007-05-18
34536	UK3452	2007-05-18
34537	UK3452	2007-05-18
34538	UK3452	2007-05-18
34539	UK3452	2007-05-18
34540	UK3452	2007-05-18
34541	UK3452	2007-05-18
67589	ZA1342	2007-05-18
67590	ZA1342	2007-05-18
67591	ZA1342	2007-05-18
67592	ZA1342	2007-05-18
67593	ZA1342	2007-05-18

```
19 rows in set (0.03 sec)
```

6.4 Numeric Functions.

SELECT LINE_PRICE, ROUND(LINE_PRICE,1) AS "LINE_PRICE1", ROUND(LINE_PRICE,0) AS "LINE_PRICE1", TRUNCATE(LINE_PRICE,0) AS "TRUNCATED VALUE" FROM SALES_LINE WHERE LINE_QTY > 2;

```
mysql> SELECT LINE_PRICE, ROUND(LINE_PRICE,1) AS "LINE_PRICE1",
-> ROUND(LINE_PRICE,0) AS "LINE_PRICE1",
-> TRUNCATE(LINE_PRICE,0) AS "TRUNCATED VALUE"
-> FROM SALES_LINE
-> WHERE LINE_QTY > 2;
```

LINE_PRICE	LINE_PRICE1	LINE_PRICE1	TRUNCATED VALUE
139.96	140.0	140	139
168.40	168.4	168	168
168.40	168.4	168	168
114.68	114.7	115	114

```
4 rows in set (0.05 sec)
```

Task 6.8

SELECT TRANSACTION_NO, LINE_PRICE, MOD(LINE_PRICE, 10) FROM SALES_LINE WHERE LINE_QTY > 2;

```
mysql> SELECT TRANSACTION_NO, LINE_PRICE, MOD(LINE_PRICE, 10)
-> FROM SALES_LINE
-> WHERE LINE_QTY > 2;
```

TRANSACTION_NO	LINE_PRICE	MOD(LINE_PRICE, 10)
12785	139.96	9.96
34534	168.40	8.40
34540	168.40	8.40
67592	114.68	4.68

4 rows in set (0.02 sec)

Explanation: In this query, we take mode of line_price with 10, where line_price s divided by 10.

It will return the **remainder** of LINE_PRICE.

6.5 String Functions (CONCAT)

SELECT CONCAT(EMP_LNAME ,EMP_FNAME) AS NAME FROM EMPLOYEE;

```
mysql> SELECT CONCAT(EMP_LNAME ,EMP_FNAME) AS
-> NAME FROM EMPLOYEE;
```

NAME
CalderdaleEmma
RicardoMarshel
ArshadArif
RobertsAnne
DenverEnrica
NamowaMirrelle
SmithGemma

7 rows in set (0.01 sec)

(UPPER/LOWER)

SELECT CONCAT(UPPER(EMP_LNAME),LOWER(EMP_FNAME)) AS NAME FROM EMPLOYEE;

```
mysql> SELECT CONCAT(UPPER(EMP_LNAME), LOWER(EMP_FNAME)) AS
-> NAME FROM EMPLOYEE;
```

NAME
CALDERDALEemma
RICARDOMarshel
ARSHADarif
ROBERTSanne
DENVERenrica
NAMOWAmirrelle
SMITHgemma

```
7 rows in set (0.01 sec)
```

(SUBSTR)

```
SELECT EMP_PHONE, SUBSTR(EMP_FNAME,1,3) FROM EMPLOYEE;
```

```
mysql> SELECT EMP_PHONE, SUBSTR(EMP_FNAME,1,3)
-> FROM EMPLOYEE;
```

EMP_PHONE	SUBSTR(EMP_FNAME,1,3)
324-9134	Emm
324-4472	Mar
675-8993	Ari
898-3456	Ann
504-4434	Enr
890-3243	Mir
324-7845	Gem

```
7 rows in set (0.02 sec)
```

(LENGTH)

```
SELECT ATTRACT_NAME, LENGTH(ATTRACT_NAME) AS NAMESIZE FROM ATTRACTION ORDER BY
NAMESIZE DESC;
```



```
mysql> SELECT ATTRACT_NAME, LENGTH(ATTRACT_NAME) AS
-> NAMESIZE FROM ATTRACTION
-> ORDER BY NAMESIZE DESC;
```

ATTRACT_NAME	NAMESIZE
SpinningTeacups	15
ThunderCoaster	14
FlightToStars	13
3D-Lego_Show	12
UnderSeaWord	12
BlackHole2	10
Ant-Trap	8
Carnival	8
GoldRush	8
Pirates	7
NULL	NULL

11 rows in set (0.10 sec)

6.5 Conversion Functions.

SELECT 10 + "10";

```
mysql> SELECT 10 + "10";
```

10 + "10"
20

1 row in set (0.04 sec)

SELECT 10, CAST(10 AS CHAR);

```
mysql> SELECT 10, CAST(10 AS CHAR);
```

10	CAST(10 AS CHAR)
10	10

1 row in set (0.02 sec)

(CASE)

SELECT PARK_CODE, PARK_COUNTRY, (CASE PARK_COUNTRY WHEN 'UK' THEN 'United Kingdom' WHEN 'FR' THEN 'France' WHEN 'NL' THEN 'The Netherlands' WHEN 'SP' THEN 'Spain' WHEN 'ZA' THEN 'South Africa' WHEN 'SW' THEN 'Switzerland' ELSE 'Unknown' END) AS COUNTRY FROM THEMEPARK;

```
mysql> SELECT PARK_CODE, PARK_COUNTRY, (CASE PARK_COUNTRY WHEN 'UK'
-> THEN 'United Kingdom' WHEN 'FR' THEN 'France' WHEN 'NL' THEN 'The
-> Netherlands' WHEN 'SP' THEN 'Spain' WHEN 'ZA' THEN 'South Africa' WHEN 'SW'
-> THEN 'Switzerland' ELSE 'Unknown' END) AS COUNTRY
-> FROM THEMEPARK;
```

PARK_CODE	PARK_COUNTRY	COUNTRY
FR1001	FR	France
NL1202	NL	The Netherlands
SP4533	SP	Spain
SW2323	SW	Switzerland
UK2622	UK	United Kingdom
UK3452	UK	United Kingdom
ZA1342	ZA	South Africa

7 rows in set (0.01 sec)

Exercises

E6.1

/* first I make drop previous EMPFR and then make a new EMPFR having park_code="UK3452". After that I simply update the information of **empfr** ***/**

CREATE VIEW EMPFR AS

SELECT *

FROM EMPLOYEE

where park_code="UK3452"

with check option;

```
mysql> CREATE VIEW EMPFR AS
-> SELECT *
-> FROM EMPLOYEE
-> where park_code="UK3452"
-> with check option;
Query OK, 0 rows affected (0.11 sec)

mysql> select * from empfr;
```

EMP_NUM	EMP_TITLE	EMP_LNAME	EMP_FNAME	EMP_DOB	EMP_HIRE_DATE	EMP_AREA_CODE	EMP_PHONE	PARK_CODE
101	Ms	Ricardo	Marshel	1978-03-19	1996-04-25	0181	324-4472	UK3452
103	Ms	Roberts	Anne	1974-10-16	1994-08-16	0181	898-3456	UK3452

```
2 rows in set (0.01 sec)
```

UPDATING emp_num=101 information

update empfr

set emp_lname="babar", emp_fname="ibran",

emp_DOB="2000-01-23", emp_area_code=0182,

emp_phone="333-2132"

where emp_num=101;

```
mysql> update empfr
-> set emp_lname="babar", emp_fname="ibran",
-> emp_DOB="2000-01-23", emp_area_code=0182,
-> emp_phone="333-2132"
-> where emp_num=101;
Query OK, 1 row affected (0.00 sec)
Rows matched: 1 Changed: 1 Warnings: 0

mysql> select * from empfr;
```

EMP_NUM	EMP_TITLE	EMP_LNAME	EMP_FNAME	EMP_DOB	EMP_HIRE_DATE	EMP_AREA_CODE	EMP_PHONE	PARK_CODE
101	Ms	babar	ibran	2000-01-23	1996-04-25	182	333-2132	UK3452
103	Ms	Roberts	Anne	1974-10-16	1994-08-16	0181	898-3456	UK3452

```
2 rows in set (0.00 sec)
```

E6.2

update EMPFR

set emp_phone="324-9652"

where emp_num=100;

```
mysql> update EMPFR
-> set emp_phone="324-9652"
-> where emp_num=100;
Query OK, 1 row affected (0.00 sec)
Rows matched: 1 Changed: 1 Warnings: 0

mysql> select * from empfr;
+-----+-----+-----+-----+-----+-----+-----+-----+-----+
| EMP_NUM | EMP_TITLE | EMP_LNAME | EMP_FNAME | EMP_DOB | EMP_HIRE_DATE | EMP_AREA_CODE | EMP_PHONE | PARK_CODE |
+-----+-----+-----+-----+-----+-----+-----+-----+-----+
| 100 | Ms | Calderdale | Emma | 1972-06-15 | 1992-03-15 | 0181 | 324-9652 | FR1001 |
| 102 | Mr | Arshad | Arif | 1969-11-14 | 1990-12-20 | 7253 | 675-8993 | FR1001 |
| 105 | Ms | Namowa | Mirrelle | 1990-03-14 | 2006-11-08 | 0181 | 890-3243 | FR1001 |
+-----+-----+-----+-----+-----+-----+-----+-----+-----+
3 rows in set (0.00 sec)

mysql> drop view empfr;
Query OK, 0 rows affected (0.00 sec)

mysql>
```

E6.3

Create view tparkssold as

```
select park_code,park_name,park_city,park_country
  from sales join sales_line using (transaction_no)
 join themepark using (park_code) group by (park_code);
```

```
mysql> Create view tparkssold as
-> select park_code,park_name,park_city,park_country
->   from sales join sales_line using (transaction_no)
->   join themepark using (park_code) group by (park_code);
Query OK, 0 rows affected (0.05 sec)

mysql> select * from tparkssold;
+-----+-----+-----+-----+
| park_code | park_name | park_city | park_country |
+-----+-----+-----+-----+
| FR1001 | FairyLand | PARIS | FR |
| UK3452 | PleasureLand | STOKE | UK |
| ZA1342 | GoldTown | JOHANNESBURG | ZA |
+-----+-----+-----+-----+
3 rows in set (0.00 sec)
```

E6.4

CREATE view EMP_DETAIL AS

```

select T.PARK_CODE, T.PARK_NAME,
E.EMP_NUM, E.EMP_LNAME,E.EMP_FNAME, E.EMP_HIRE_DATE,E.EMP_DOB
FROM THEMPARK T NATURAL JOIN EMPLOYEE E;

```

```

mysql> CREATE view EMP_DETAIL AS
-> select T.PARK_CODE, T.PARK_NAME,
-> E.EMP_NUM, E.EMP_LNAME,E.EMP_FNAME, E.EMP_HIRE_DATE,E.EMP_DOB
-> FROM THEMPARK T NATURAL JOIN EMPLOYEE E;
Query OK, 0 rows affected (0.05 sec)

mysql> select * from emp_detail;
+-----+-----+-----+-----+-----+-----+-----+
| PARK_CODE | PARK_NAME | EMP_NUM | EMP_LNAME | EMP_FNAME | EMP_HIRE_DATE | EMP_DOB |
+-----+-----+-----+-----+-----+-----+-----+
| FR1001 | FairyLand | 100 | Calderdale | Emma | 1992-03-15 | 1972-06-15 |
| UK3452 | PleasureLand | 101 | babar | ibrar | 1996-04-25 | 2000-01-23 |
| FR1001 | FairyLand | 102 | Arshad | Arif | 1990-12-20 | 1969-11-14 |
| UK3452 | PleasureLand | 103 | Roberts | Anne | 1994-08-16 | 1974-10-16 |
| ZA1342 | GoldTown | 104 | Denver | Enrica | 2001-10-20 | 1980-11-08 |
| FR1001 | FairyLand | 105 | Namowa | Mirrelle | 2006-11-08 | 1990-03-14 |
| ZA1342 | GoldTown | 106 | Smith | Gemma | 1989-01-05 | 1968-02-12 |
+-----+-----+-----+-----+-----+-----+-----+
7 rows in set (0.01 sec)

```

E6.5

```

select EMP_FNAME,EMP_LNAME,PARK_CODE FROM EMP_DETAIL;

```

```

mysql> select EMP_FNAME,EMP_LNAME,PARK_CODE FROM EMP_DETAIL;
+-----+-----+-----+
| EMP_FNAME | EMP_LNAME | PARK_CODE |
+-----+-----+-----+
| Emma | Calderdale | FR1001 |
| ibrar | babar | UK3452 |
| Arif | Arshad | FR1001 |
| Anne | Roberts | UK3452 |
| Enrica | Denver | ZA1342 |
| Mirrelle | Namowa | FR1001 |
| Gemma | Smith | ZA1342 |
+-----+-----+-----+
7 rows in set (0.00 sec)

```

E6.6

Create view TICKET_SALES as

```

select park_name, min(line_price),max(line_price),avg(line_price)
from sales join sales_line using (transaction_no)
join themepark using (park_code) group by (park_code);

```

```
mysql> Create view TICKET_SALES as
-> select park_name, min(line_price),max(line_price),avg(line_price)
->   from sales join sales_line using (transaction_no)
->   join themepark using (park_code) group by (park_code);
Query OK, 0 rows affected (0.04 sec)

mysql> select * from ticket_sales;
```

park_name	min(line_price)	max(line_price)	avg(line_price)
FairyLand	14.99	139.96	50.232500
PleasureLand	21.98	168.40	60.785714
GoldTown	12.12	114.68	47.637778

```
3 rows in set (0.00 sec)
```

E6.7

SELECT DISTINCT(DATE_FORMAT(SALE_DATE, "%a-%d-%c-%y")) FROM SALES;

```
mysql> SELECT DISTINCT(DATE_FORMAT(SALE_DATE, "%a-%d-%c-%y")) FROM SALES;
```

(DATE_FORMAT(SALE_DATE, "%a-%d-%c-%y"))
Fri-18-5-07

```
1 row in set (0.00 sec)
```

E6.8

```
select emp_fname,emp_lname, concat
(date_format(emp_dob,'%m01'),
substring( upper(emp_lname),1,6)) as name
from employee;
```

```
mysql> select emp_fname,emp_lname, concat (date_format(emp_dob,'%m01'),
-> substring( upper(emp_lname),1,6)) as name
-> from employee;
```

emp_fname	emp_lname	name
Emma	Calderdale	0601CALDER
ibrar	babar	0101BABAR
Arif	Arshad	1101ARSHAD
Anne	Roberts	1001ROBERT
Enrica	Denver	1101DENVER
Mirrelle	Namowa	0301NAMOWA
Gemma	Smith	0201SMITH

```
7 rows in set (0.00 sec)
```

E6.9

```
select emp_fname,emp_lname, emp_dob from employee where
day(emp_dob) = '14';
```

```
mysql> select emp_fname,emp_lname, emp_dob from employee where day(emp_dob) = '14';
```

emp_fname	emp_lname	emp_dob
Arif	Arshad	1969-11-14
Mirrelle	Namowa	1990-03-14

```
2 rows in set (0.04 sec)
```

E6.10

```
SELECT CONCAT(SUBSTRING(UPPER(EMP_PHONE),1,3) ,SUBSTRING(LOWER(EMP_FNAME),1,2))
AS USER_PASSWORD FROM EMPLOYEE;
```

```
mysql> SELECT CONCAT(SUBSTRING(UPPER(EMP_PHONE),1,3) ,SUBSTRING(LOWER(EMP_FNAME),1,2)) AS USER_PASSWORD FROM EMPLOYEE;
+-----+
| USER_PASSWORD |
+-----+
| 324em         |
| 333ib         |
| 675ar         |
| 898an         |
| 504en         |
| 890mi         |
| 324ge         |
+-----+
7 rows in set (0.00 sec)
```
