Date and Time Functions:

In MySQL there are a number of useful date and time functions. However, first it is

important to briefly look at the main date and time types are available to MySQL. These are shown below:

MySQL Date and Time data types

DATETIME: YYYY-MM-DD HH:MM: SS

DATE: YYYY-MM-DD

TIMESTAMP: YYYYMMDDHHSSMM

TIME: HH:MM: SS

YEAR: YYYY

Using Data 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)
```

Today's Day:

 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)
```

Selecting Specific Date:

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:

The DATEDIFF function subtracts two dates and returns a value in days
from one date to the

other. The following example calculates the number of days between
the 1st January 2008 and the 25th December 2008.

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:

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:

the following query adds 11 months to the date 1st January 2008 to display a new date of 1st December 2008.

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:

Enter the following query which lists the hire dates of all employees along with the date of their first work appraisal (one year from the hire date).

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)
```

Last Day:

The function LAST_DAY returns the date of the last day of the month given in a date.

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)
```

Specifier	Description
%a	Abbreviated weekday name (Sun..Sat)
%b	Abbreviated month name (Jan..Dec)
%c	Month, numeric (0..12)
%D	Day of the month with English suffix (0th, 1st, 2nd, 3rd, …)
%d	Day of the month, numeric (00..31)
%e	Day of the month, numeric (0..31)
%f	Microseconds (000000..999999)
%H	Hour (00..23)
%h	Hour (01..12)
%I	Hour (01..12)
%i	Minutes, numeric (00..59)
%j	Day of year (001..366)
%k	Hour (0..23)
%l	Hour (1..12)
%M	Month name (January..December)
%m	Month, numeric (00..12)
%p	AM or PM
%r	Time, 12-hour (hh:mm:ss followed by AM or PM)
%S	Seconds (00..59)
%s	Seconds (00..59)
%T	Time, 24-hour (hh:mm:ss)
%U	Week (00..53), where Sunday is the first day of the week
%u	Week (00..53), where Monday is the first day of the week
%V	Week (01..53), where Sunday is the first day of the week; used with %X
%v	Week (01..53), where Monday is the first day of the week; used with %x
%W	Weekday name (Sunday..Saturday)
%w	Day of the week (0=Sunday..6=Saturday)
%X	Year for the week where Sunday is the first day of the week, numeric, four digits; used with %V
%x	Year for the week, where Monday is the first day of the week, numeric, four digits; used with %v
%Y	Year, numeric, four digits
%y	Year, numeric (two digits)