```
================================================================================================
TRUNCATE----------cut the DATA
================================================================================================
mysql> select truncate(3.6,1) from dual;
+-----------------+
| truncate(3.6,1) |
+-----------------+
|             3.6 |
+-----------------+
1 row in set (0.00 sec)

mysql> select truncate(3125.65555,1) from dual;
+------------------------+
| truncate(3125.65555,1) |
+------------------------+
|                 3125.6 |
+------------------------+
1 row in set (0.00 sec)

mysql> select truncate(3125.65555,2) from dual;
+------------------------+
| truncate(3125.65555,2) |
+------------------------+
|                3125.65 |
+------------------------+
1 row in set (0.00 sec)

mysql> select truncate(3125.65555,3) from dual;
+------------------------+
| truncate(3125.65555,3) |
+------------------------+
|               3125.655 |
+------------------------+
1 row in set (0.00 sec)

mysql> select truncate(3125.65555,-1) from dual;
+-------------------------+
| truncate(3125.65555,-1) |
+-------------------------+
|                    3120 |
+-------------------------+
1 row in set (0.00 sec)

mysql> select truncate(3125.65555,-2) from dual;
+-------------------------+
| truncate(3125.65555,-2) |
+-------------------------+
|                    3100 |
+-------------------------+
1 row in set (0.00 sec)

mysql> select truncate(3125.65555,-3) from dual;
+-------------------------+
| truncate(3125.65555,-3) |
+-------------------------+
|                    3000 |
+-------------------------+
1 row in set (0.00 sec)

mysql> select truncate(3.6,0) from dual;
+-----------------+
| truncate(3.6,0) |
+-----------------+
|               3 |
+-----------------+
1 row in set (0.03 sec)
```

```
===============
SIGN funcion:
=============================================================================================================
===============
1.check if num is +ve or -ve
2.sign(sp-cp)
3.sign(temperature)
4.sign(blood_group)
5.medical report

mysql> select sign(-15) from dual;
+-----------+
| sign(-15) |
+-----------+
|        -1 |
+-----------+
1 row in set (0.29 sec)

mysql> select sign(15) from dual;
+----------+
| sign(15) |
+----------+
|        1 |
+----------+
1 row in set (0.00 sec)

mysql> select sign(0) from dual;
+---------+
| sign(0) |
+---------+
|       0 |
+---------+
1 row in set (0.00 sec)



=============================================================================================
MOD FUNCTION------remainder
=============================================================================================
mysql> select mod(9,5) from dual;
+----------+
| mod(9,5) |
+----------+
|        4 |
+----------+
1 row in set (0.00 sec)

mysql> select mod(8.22,2.2) from dual;
+---------------+
| mod(8.22,2.2) |
+---------------+
|          1.62 |
+---------------+
1 row in set (0.00 sec)

mysql> select mod(-8.22,2.2) from dual;
+----------------+
| mod(-8.22,2.2) |
+----------------+
|          -1.62 |
+----------------+
1 row in set (0.00 sec)


=============================================================================================
SQRT  SQAURE ROOT
=============================================================================================
mysql> select sqrt(81) from dual;
+----------+
| sqrt(81) |
+----------+
```

```
|         9 |
+-----------+
1 row in set (0.00 sec)
```

```
================================================================================================
POWER----------POWER FUNCTION
================================================================================================
mysql> select power(10,3) from dual;
+-------------+
| power(10,3) |
+-------------+
|        1000 |
+-------------+
1 row in set (0.00 sec)

mysql> select power(12,3) from dual;
+-------------+
| power(12,3) |
+-------------+
|        1728 |
+-------------+
1 row in set (0.00 sec)
```

```
================================================================================================
CUBE ROOT----cube root
================================================================================================
mysql> select power(1000,1/3) from dual;
+------------------+
| power(1000,1/3)  |
+------------------+
| 9.99999997697415 |
+------------------+
1 row in set (0.00 sec)
```

```
================================================================================================
ABS---absolute value--alwasy return postive value
================================================================================================
mysql> select abs(-10) from dual;
+-----------+
| abs(-10)  |
+-----------+
|        10 |
+-----------+
1 row in set (0.00 sec)

mysql> select abs(-45) from dual;
+-----------+
| abs(-45)  |
+-----------+
|        45 |
+-----------+
1 row in set (0.00 sec)
```

```
================================================================================================
Date FUNCTION---MYSQL
================================================================================================

default date format
1.'YYYY/MM/DD'
2.range of date '1000/01/01 to '9999/12/31'';
3. date1-date 2===number of days
4.internally date is stored as fixed length NUMBER
  (number of days since 1st jan 1000 AD)
```

5. 7bytes Stores
6. **date and time is** stored together
7. **default value=**12am midnight
8. 1970 **is** the cut **off year** UNIX AandAT LAB
9. cut **off year** meeans what**??**

2021/11/24-Optional
21/11/24

60/11/24
2060/11/24 will be stored

EMP **TABLE**

HIRE **DATE**

2019-10-15
2019-12-31
2020-01-15

==========
SYSDATE: RETURN THE DB SERVER **DATE AND TIME**
==========

```
mysql> select sysdate() from dual;
+---------------------+
| sysdate()           |
+---------------------+
| 2021-11-24 15:11:06 |
+---------------------+
```
date and time when statmenet executed;

==========
```
mysql> select now() from dual;
+---------------------+
| now()               |
+---------------------+
| 2021-11-24 15:18:34 |
+---------------------+
1 row in set (0.00 sec)
```

date and time when began statmenet executed;
sysdate----current Date and TIME
now()------log operations insert delete update etc;

```
mysql> select sysdate(),now(),sleep(10),Sysdate(), now() from dual;
+---------------------+---------------------+----------+---------------------+---------------------+
| sysdate()           | now()               | sleep(10) | Sysdate()           | now()               |
+---------------------+---------------------+----------+---------------------+---------------------+
| 2021-11-24 15:22:38 | 2021-11-24 15:22:38 |         0 | 2021-11-24 15:22:48 | 2021-11-24 15:22:38 |
+---------------------+---------------------+----------+---------------------+---------------------+
```

==========
ADDDATE:
==========
```
mysql> select adddate(sysdate(),1)from dual;
+---------------------+
```

```
| adddate(sysdate(),1) |
+----------------------+
| 2021-11-25 15:26:20  |
+----------------------+

mysql> select adddate(sysdate(),2)from dual;
+----------------------+
| adddate(sysdate(),2) |
+----------------------+
| 2021-11-26 15:27:13  |
+----------------------+
1 row in set (0.00 sec)
mysql> select adddate(sysdate(),7)from dual;
+----------------------+
| adddate(sysdate(),7) |
+----------------------+
| 2021-12-01 15:28:28  |
+----------------------+


mysql> select adddate(sysdate(),-1)from dual;
+-----------------------+
| adddate(sysdate(),-1) |
+-----------------------+
| 2021-11-23 15:29:00   |
+-----------------------+



============================================================
DATEDIFF
============================================================
mysql> select datediff(sysdate(),odate) "TOTAL NUMBER OF DAYS " from orders;
+----------------------+
| TOTAL NUMBER OF DAYS |
+----------------------+
|                11375 |
|                11375 |
|                11375 |
|                11375 |
|                11375 |
|                11374 |
|                11374 |
|                11373 |
|                11372 |
|                11372 |
+----------------------+
10 rows in set (0.00 sec)

Sysdate():25.11.2021
mysql> select datediff(sysdate(),'2021-11-21') "DATE" from orders;
+------+
| DATE |
+------+
|    4 |
|    4 |
|    4 |
|    4 |
|    4 |
|    4 |
|    4 |
|    4 |
|    4 |
|    4 |
+------+



================================================================================================
DATE_ADD
================================================================================================
```

adding two month:

```
mysql> select date_add(odate,interval 2 month)from orders;
+----------------------------------+
| date_add(odate,interval 2 month) |
+----------------------------------+
| 1990-12-03                       |
| 1990-12-03                       |
| 1990-12-03                       |
| 1990-12-03                       |
| 1990-12-03                       |
| 1990-12-04                       |
| 1990-12-04                       |
| 1990-12-05                       |
| 1990-12-06                       |
| 1990-12-06                       |
+----------------------------------+
```

removing two month

```
mysql> select date_add(odate,interval -2 month)from orders;
+----------------------------------+
| date_add(odate,interval -2 month) |
+----------------------------------+
| 1990-08-03                       |
| 1990-08-03                       |
| 1990-08-03                       |
| 1990-08-03                       |
| 1990-08-03                       |
| 1990-08-04                       |
| 1990-08-04                       |
| 1990-08-05                       |
| 1990-08-06                       |
| 1990-08-06                       |
+----------------------------------+
```

ADD 2 YEAR

```
mysql> select date_add(odate,interval 2 year)from orders;
+---------------------------------+
| date_add(odate,interval 2 year) |
+---------------------------------+
| 1992-10-03                      |
| 1992-10-03                      |
| 1992-10-03                      |
| 1992-10-03                      |
| 1992-10-03                      |
| 1992-10-04                      |
| 1992-10-04                      |
| 1992-10-05                      |
| 1992-10-06                      |
| 1992-10-06                      |
+---------------------------------+
10 rows in set (0.00 sec)
```

remove -2 YEAR

```
mysql> select date_add(odate,interval -2 year)from orders;
+---------------------------------+
| date_add(odate,interval -2 year) |
+---------------------------------+
| 1988-10-03                      |
| 1988-10-03                      |
| 1988-10-03                      |
| 1988-10-03                      |
| 1988-10-03                      |
| 1988-10-04                      |
| 1988-10-04                      |
| 1988-10-05                      |
| 1988-10-06                      |
| 1988-10-06                      |
+---------------------------------+
```

```
adding days in DATE
mysql> select date_add(odate,interval -2 day)from orders;
+--------------------------------+
| date_add(odate,interval -2 day) |
+--------------------------------+
| 1990-10-01                     |
| 1990-10-01                     |
| 1990-10-01                     |
| 1990-10-01                     |
| 1990-10-01                     |
| 1990-10-02                     |
| 1990-10-02                     |
| 1990-10-03                     |
| 1990-10-04                     |
| 1990-10-04                     |
+--------------------------------+
10 rows in set (0.00 sec)



================================================================================================
LAST_DATE....last date of the month
================================================================================================
this functiom avalable on only MYSQL and ORACLE ONLYYYYYYYY
USE ---attendance calculation,intrest calcaulation,overtime
mysql> select last_day(odate)from orders;
+-----------------+
| last_day(odate) |
+-----------------+
| 1990-10-31      |
| 1990-10-31      |
| 1990-10-31      |
| 1990-10-31      |
| 1990-10-31      |
| 1990-10-31      |
| 1990-10-31      |
| 1990-10-31      |
| 1990-10-31      |
| 1990-10-31      |
+-----------------+


================================================================================================
DAYNAME:the day of th weeks
================================================================================================
initcap:DEFAULT
mysql> select dayname(sysdate())from dual;
+--------------------+
| dayname(sysdate()) |
+--------------------+
| Wednesday          |
+--------------------+


ALL CASE UPPPER CASE FORMAT
mysql> select upper(dayname(sysdate()))from dual;
+---------------------------+
| upper(dayname(sysdate())) |
+---------------------------+
| WEDNESDAY                 |
+---------------------------+


UPTO 3 SUBTRING----WEDNESDAY
mysql> select substr(dayname(sysdate()),1,3) from dual;
+-------------------------------+
| substr(dayname(sysdate()),1,3) |
+-------------------------------+
| Wed                           |
+-------------------------------+
```

```
================================================================================================
ADD TIME
================================================================================================
ADD ONE SECOND TO TIME
mysql> select addtime('2010-01-15 11:00:00','1') from dual;
+-----------------------------------+
| addtime('2010-01-15 11:00:00','1') |
+-----------------------------------+
| 2010-01-15 11:00:01               |
+-----------------------------------+

ADD 1 HOUR TO TIME
mysql> select addtime('2010-01-15 11:00:00','1:00:00') from dual;
+---------------------------------------+
| addtime('2010-01-15 11:00:00','1:00:00') |
+---------------------------------------+
| 2010-01-15 12:00:00                   |
+---------------------------------------+

SUBTRACT MINUS TIME
mysql> select addtime('2010-01-15 11:00:00','-1:43:25') from dual;
+----------------------------------------+
| addtime('2010-01-15 11:00:00','-1:43:25') |
+----------------------------------------+
| 2010-01-15 09:16:35                    |
+----------------------------------------+

UPTO 6 DIGIT WE CAN ADD
mysql> select addtime('2010-01-15 11:00:00','1:43:12.123456') from dual;
+-------------------------------------------------+
| addtime('2010-01-15 11:00:00','1:43:12.123456') |
+-------------------------------------------------+
| 2010-01-15 12:43:12.123456                      |
+-------------------------------------------------+



================================================================================================
LIST FUNCTIONS
================================================================================================
* any comprarision done with null,returns null.

select * from emp where comm=null;
pessimistic query->searching for null values;


Special treatment:

mysql> select * from orders where cnum=null;
Empty set (0.00 sec)(no output)
mysql> select * from orders where cnum is null;
will give output:
is null->its special operator

mysql> select * from orders where cnum!=null;
Empty set (0.00 sec)
mysql> select * from orders where cnum is not null;
+------+---------+------------+------+------+
| Onum | Amt     | Odate      | Cnum | Snum |
+------+---------+------------+------+------+
| 3001 |   18.69 | 1990-10-03 | 2008 | 1007 |
| 3010 |  309.95 | 1990-10-06 | 2004 | 1002 |
| 3011 | 9891.88 | 1990-10-06 | 2006 | 1001 |
+------+---------+------------+------+------+
it will show zero also; if available



================================================
```

```
mysql> select * from orders where cnum is not null;
+------+---------+------------+------+------+
| Onum | Amt     | Odate      | Cnum | Snum |
+------+---------+------------+------+------+
| 3001 |   18.69 | 1990-10-03 | 2008 | 1007 |
| 3003 |  767.19 | 1990-10-03 | 2001 | 1001 |
| 3002 | 1900.10 | 1990-10-03 | 2007 | 1004 |
| 3005 | 5160.45 | 1990-10-03 | 2003 | 1002 |
| 3006 | 1098.16 | 1990-10-03 | 2008 | 1007 |
| 3009 | 1713.23 | 1990-10-04 | 2002 | 1003 |
| 3007 |   75.75 | 1990-10-04 | 2004 | 1002 |
| 3008 | 4723.00 | 1990-10-05 | 2006 | 1001 |
| 3010 |  309.95 | 1990-10-06 | 2004 | 1002 |
| 3011 | 9891.88 | 1990-10-06 | 2006 | 1001 |
+------+---------+------------+------+------+
mysql> select amt+snum from orders;
+----------+
| amt+snum |
+----------+
|  1025.69 |
|  1768.19 |
|  2904.10 |
|  6162.45 |
|  2105.16 |
|  2716.23 |
|  1077.75 |
|  5724.00 |
|  1311.95 |
| 10892.88 |
+----------+

mysql> select amt+ifnull(snum,0) from orders;
+--------------------+
| amt+ifnull(snum,0) |
+--------------------+
|            1025.69 |
|            1768.19 |
|            2904.10 |
|            6162.45 |
|            2105.16 |
|            2716.23 |
|            1077.75 |
|            5724.00 |
|            1311.95 |
|           10892.88 |
+--------------------+

if null works with all datatypes;

ifnull(comm,0);
ifnull(comm,100);
ifnull(comm,'mumbai');
ifnull(comm,'2021-04-01');



==========================================================================================
least and greatest
==========================================================================================
select least(amt,3000) from orders;
mysql> select least(amt,1000) from orders;
+-----------------+
| least(amt,1000) |
+-----------------+
|           18.69 |
|          767.19 |
|         1000.00 |
|         1000.00 |
|         1000.00 |
|         1000.00 |
```

```
|           75.75 |
|         1000.00 |
|          309.95 |
|         1000.00 |
+-----------------+
select greatest (amt,300)from orders;
mysql> select greatest(amt,1000) from orders;
+--------------------+
| greatest(amt,1000) |
+--------------------+
|            1000.00 |
|            1000.00 |
|            1900.10 |
|            5160.45 |
|            1098.16 |
|            1713.23 |
|            1000.00 |
|            4723.00 |
|            1000.00 |
|            9891.88 |
+--------------------+
```

==========

Case Expression

==========

```
select
CASE
when deptno=10 then 'Training'
when deptno=20 then 'sales'
when deptno=30 then 'experts'
else 'OTHERS'
end
from emp;

Training
Training
OTHERS

mysql> select
    -> case
    -> when onum=3001 then 'dnyansh'
    -> when onum=3005 then 'nano'
    -> when onum=3010 then 'dnyaneshwar'
    -> else 'others'
    -> end "case expression"
    -> from orders;
+-----------------+
| case expression |
+-----------------+
| dnyansh         |
| others          |
| others          |
| nano            |
| others          |
| others          |
| others          |
| others          |
| dnyaneshwar     |
| others          |
+-----------------+
```

==========

Enviroment **FUNCTION**

==========

```
mysql> select user() from dual;
+---------------+
| user()        |
```

```
+----------------+
| root@localhost |
+----------------+
```

```
================================================================================================
show character set total 41
================================================================================================
mysql> show character set;
```

Charset	Description	Default collation	Maxlen
armscii8	ARMSCII-8 Armenian	armscii8_general_ci	1
ascii	US ASCII	ascii_general_ci	1
big5	Big5 Traditional Chinese	big5_chinese_ci	2
binary	Binary pseudo charset	binary	1
cp1250	Windows Central European	cp1250_general_ci	1
cp1251	Windows Cyrillic	cp1251_general_ci	1
cp1256	Windows Arabic	cp1256_general_ci	1
cp1257	Windows Baltic	cp1257_general_ci	1
cp850	DOS West European	cp850_general_ci	1
cp852	DOS Central European	cp852_general_ci	1
cp866	DOS Russian	cp866_general_ci	1
cp932	SJIS for Windows Japanese	cp932_japanese_ci	2
dec8	DEC West European	dec8_swedish_ci	1
eucjpms	UJIS for Windows Japanese	eucjpms_japanese_ci	3
euckr	EUC-KR Korean	euckr_korean_ci	2
gb18030	China National Standard GB18030	gb18030_chinese_ci	4
gb2312	GB2312 Simplified Chinese	gb2312_chinese_ci	2
gbk	GBK Simplified Chinese	gbk_chinese_ci	2
geostd8	GEOSTD8 Georgian	geostd8_general_ci	1
greek	ISO 8859-7 Greek	greek_general_ci	1
hebrew	ISO 8859-8 Hebrew	hebrew_general_ci	1
hp8	HP West European	hp8_english_ci	1
keybcs2	DOS Kamenicky Czech-Slovak	keybcs2_general_ci	1
koi8r	KOI8-R Relcom Russian	koi8r_general_ci	1
koi8u	KOI8-U Ukrainian	koi8u_general_ci	1
latin1	cp1252 West European	latin1_swedish_ci	1
latin2	ISO 8859-2 Central European	latin2_general_ci	1
latin5	ISO 8859-9 Turkish	latin5_turkish_ci	1
latin7	ISO 8859-13 Baltic	latin7_general_ci	1
macce	Mac Central European	macce_general_ci	1
macroman	Mac West European	macroman_general_ci	1
sjis	Shift-JIS Japanese	sjis_japanese_ci	2
swe7	7bit Swedish	swe7_swedish_ci	1
tis620	TIS620 Thai	tis620_thai_ci	1
ucs2	UCS-2 Unicode	ucs2_general_ci	2
ujis	EUC-JP Japanese	ujis_japanese_ci	3
utf16	UTF-16 Unicode	utf16_general_ci	4
utf16le	UTF-16LE Unicode	utf16le_general_ci	4
utf32	UTF-32 Unicode	utf32_general_ci	4
utf8	UTF-8 Unicode	utf8_general_ci	3
utf8mb4	UTF-8 Unicode	utf8mb4_0900_ai_ci	4

```
================================================================================================
Aggregate FUNCTION
================================================================================================
CREATE table emp(empno int(4),ename varchar(20),sal int(10),deptno int(4),job
VARCHAR(20),mgr VARCHAR(20));
insert into emp values(1,'arun',8000,1,'M','4');
insert into emp values(2,'ali',7000,1,'C','1');
insert into emp values(3,'kiran',3000,1,'C','1');
insert into emp values(4,'jack',9000,2,'M',null);
insert into emp values(5,'Thomas',8000,2,'C',4);

mysql> select * from emp;
```

empno	ename	sal	deptno	job	mgr
1	arun	8000	1	M	4

```
|      2 | ali    | 7000 |      1 | C    | 1    |
|      3 | kiran  | 3000 |      1 | C    | 1    |
|      4 | jack   | 9000 |      2 | M    | NULL |
|      5 | Thomas | 8000 |      2 | C    | 4    |
+-------+--------+------+--------+------+------+
```

arun is reporting to jack
ali is reporting to arun
emp jack is not reporting to any one because he may be CEO of company
mgr=manager

SINGLE ROW FUNCTION
will operate on 1 row at a TIME
number date list enviromenet FUNCTION
e.g. upper(ename)

Multi ROW FUNCTION

Q. how does select statment internally working?
Ans.
ALL data is Server Hardisk
All processing is done at server Ram
Server RAM: Only SUM(SAL) colums will load on Server RAM
that empno,empname,deptno,job,mgr will not load in ram.
MYSQL will put this into array this will be one dimesional ARRAY.
then it goes inside for loop and then done calculation
only 5 bytes will send server to client.

```
mysql> select sum(sal) from emp;
+----------+
| sum(sal) |
+----------+
|    35000 |
+----------+

mysql> select avg(sal) from emp;
+-----------+
| avg(sal)  |
+-----------+
| 7000.0000 |
+-----------+
1 row in set (0.00 sec)

mysql> select max(sal) from emp;
+----------+
| max(sal) |
+----------+
|     9000 |
+----------+
1 row in set (0.00 sec)

mysql> select min(sal) from emp;
+----------+
| min(sal) |
+----------+
|     3000 |
+----------+
1 row in set (0.00 sec)

mysql> select count(sal) from emp;
+------------+
| count(sal) |
+------------+
|          5 |
+------------+
1 row in set (0.00 sec)
```

```
mysql> insert into emp values(6,'Dnyanshwar',null,2,'M',null);
Query OK, 1 row affected (0.18 sec)

mysql> select * from emp;
+-------+------------+------+--------+------+------+
| empno | ename      | sal  | deptno | job  | mgr  |
+-------+------------+------+--------+------+------+
|     1 | arun       | 8000 |      1 | M    | 4    |
|     2 | ali        | 7000 |      1 | C    | 1    |
|     3 | kiran      | 3000 |      1 | C    | 1    |
|     4 | jack       | 9000 |      2 | M    | NULL |
|     5 | Thomas     | 8000 |      2 | C    | 4    |
|     6 | Dnyanshwar | NULL |      2 | M    | NULL |
+-------+------------+------+--------+------+------+
mysql> select sum(sal) from emp;
+----------+
| sum(sal) |
+----------+
|    35000 |
+----------+

that is no need of IFNULL statment
Null values are not counted by group funcion.out will same as above

mysql> select avg(ifnull(sal,0)) from emp;
+--------------------+
| avg(ifnull(sal,0)) |
+--------------------+
|          5833.3333 |
+--------------------+
it will put 0 where sal=null

mysql> select count(*) from emp;
+----------+
| count(*) |
+----------+
|        6 |
+----------+
it will return total number of rows. also count the null VALUE;


mysql> select sum(sal) from emp where deptno=1;
+----------+
| sum(sal) |
+----------+
|    18000 |
+----------+
Q.how does internally works with where clause?
Server RAM will search SAL and DEPTNO 1 will loaded only in RAM
calculation done.
import thing is here all salary column will not loaded in RAM.only deptno 1 will loaded;

select count(*) from emp where sal>7000;

mysql> select count(*) from emp where sal>7000;
+----------+
| count(*) |
+----------+
|        3 |
+----------+
COUNT QUERY(counting the number query hits)


RATIO.
select max(sal)/min(sal) from emp;
mysql> select max(sal)/min(sal) from emp;
+------------------+
| max(sal)/min(sal) |
+------------------+
|           3.0000 |
```

```
+-------------------+

select max(sal)/count(*) from emp;

AVG:
mysql> select sum(sal)/count(*) from emp;
+-------------------+
| sum(sal)/count(*) |
+-------------------+
|         5833.3333 |
+-------------------+
function within function(slower)


select avg(ifnull(sal,0)) from emp;
mysql> select avg(ifnull(sal,0)) from emp;(recommded because fater)
+--------------------+
| avg(ifnull(sal,0)) |
+--------------------+
|          5833.3333 |
+--------------------+

mysql> select stddev(sal) from emp;
+-------------------+
| stddev(sal)       |
+-------------------+
| 2097.617696340303 |
+-------------------+
1 row in set (0.00 sec)

mysql> select variance(sal) from emp;
+---------------+
| variance(sal) |
+---------------+
|       4400000 |
+---------------+


min,max,count with works all data types
sum avg stddev.variance works with int data types.

assumption last row sal is 8000

SUMMERY report
select count(*),min(sal),max(sal),sum(sal), avg(sal) "Summery Report" from emp;
mysql> select count(*),min(sal),max(sal),sum(sal), avg(sal) "Summery Report" from emp;
+----------+----------+----------+----------+----------------+
| count(*) | min(sal) | max(sal) | sum(sal) | Summery Report |
+----------+----------+----------+----------+----------------+
|        5 |     3000 |     9000 |    35000 |      7000.0000 |
+----------+----------+----------+----------+----------------+
================================================================================================
```