use analyticsdb;

create table ineuron\_course(

course\_name varchar(50),

course\_id int(10),

course\_title varchar(60),

course\_desc varchar(60),

launch\_date date,

course\_fee int,

course\_mentor varchar(60),

course\_launch\_year int

);

select \* from analyticsdb.ineuron\_course;

insert into ineuron\_course values('Machine learning',101,'ML','This is ML course','2019-07-07',3450,'Sudhanshu',2019),

('aiops' , 101 , 'ML', "this is aiops course" ,'2019-07-07',3540,'sudhanshu',2019) ,

('dlcvnlp' , 101 , 'ML', "this is ML course" ,'2020-07-07',3540,'sudhanshu',2020) ,

('aws cloud' , 101 , 'ML', "this is ML course" ,'2020-07-07',3540,'sudhanshu',2020) ,

('blockchain' , 101 , 'ML', "this is ML course" ,'2021-07-07',3540,'sudhanshu',2021) ,

('RL' , 101 , 'ML', "this is ML course" ,'2022-07-07',3540,'sudhanshu',2022) ,

('Dl' , 101 , 'ML', "this is ML course" ,'2022-07-07',3540,'sudhanshu',2022) ,

('interview prep' , 101 , 'ML', "this is ML course" ,'2019-07-07',3540,'sudhanshu',2019) ,

('big data' , 101 , 'ML', "this is ML course" ,'2020-07-07',3540,'sudhanshu',2020) ,

('data analytics' , 101 , 'ML', "this is ML course" ,'2021-07-07',3540,'sudhanshu',2021) ,

('fsds' , 101 , 'ML', "this is ML course" ,'2022-07-07',3540,'sudhanshu',2022) ,

('fsda' , 101 , 'ML', "this is ML course" ,'2021-07-07',3540,'sudhanshu',2021) ,

('fabe' , 101 , 'ML', "this is ML course" ,'2022-07-07',3540,'sudhanshu',2022) ,

('java' , 101 , 'ML', "this is ML course" ,'2020-07-07',3540,'sudhanshu',2020) ,

('MERN' , 101 , 'ML', "this is ML course" ,'2019-07-07',3540,'sudhanshu',2019) ;

select \* from ineuron\_course where course\_launch\_year = 2020;

show plugins;

SELECT

PLUGIN\_NAME as Name,

PLUGIN\_VERSION as Version,

PLUGIN\_STATUS as Status

FROM INFORMATION\_SCHEMA.PLUGINS

WHERE PLUGIN\_TYPE='STORAGE ENGINE';

-- PARTITION BY RANGE

# Partitioned by range is partitioned in such a way that each partition contains rows for which the partitioning expression value lies within a given range.

# Ranges should be contiguous but not overlapping, and are defined using the "VALUES LESS THAN" operator.

# PARTION BY RANGE , RECORDs are stored based on Course\_launch YEAR and using it it will decide where it gets stored in whcih partition

create table ineuron\_course1(

course\_name varchar(50),

course\_id int,

course\_title varchar(60),

course\_desc varchar(60),

launch\_date date,

course\_fee int,

course\_mentor varchar(60),

course\_launch\_year int

) partition by range (course\_launch\_year)

( partition p0 values less than (2019),

partition p1 values less than (2020),

partition p2 values less than (2021),

partition p3 values less than (2022),

partition p4 values less than (2023)

);

insert into ineuron\_course1 values('Machine learning',101,'ML','This is ML course','2019-07-07',3450,'Sudhanshu',2019),

('aiops' , 101 , 'ML', "this is aiops course" ,'2019-07-07',3540,'sudhanshu',2019) ,

('dlcvnlp' , 101 , 'ML', "this is ML course" ,'2020-07-07',3540,'sudhanshu',2020) ,

('aws cloud' , 101 , 'ML', "this is ML course" ,'2020-07-07',3540,'sudhanshu',2020) ,

('blockchain' , 101 , 'ML', "this is ML course" ,'2021-07-07',3540,'sudhanshu',2021) ,

('RL' , 101 , 'ML', "this is ML course" ,'2022-07-07',3540,'sudhanshu',2022) ,

('Dl' , 101 , 'ML', "this is ML course" ,'2022-07-07',3540,'sudhanshu',2022) ,

('interview prep' , 101 , 'ML', "this is ML course" ,'2019-07-07',3540,'sudhanshu',2019) ,

('big data' , 101 , 'ML', "this is ML course" ,'2020-07-07',3540,'sudhanshu',2020) ,

('data analytics' , 101 , 'ML', "this is ML course" ,'2021-07-07',3540,'sudhanshu',2021) ,

('fsds' , 101 , 'ML', "this is ML course" ,'2022-07-07',3540,'sudhanshu',2022) ,

('fsda' , 101 , 'ML', "this is ML course" ,'2021-07-07',3540,'sudhanshu',2021) ,

('fabe' , 101 , 'ML', "this is ML course" ,'2022-07-07',3540,'sudhanshu',2022) ,

('java' , 101 , 'ML', "this is ML course" ,'2020-07-07',3540,'sudhanshu',2020) ,

('MERN' , 101 , 'ML', "this is ML course" ,'2019-07-07',3540,'sudhanshu',2019) ;

select \* from ineuron\_course1 ;

select partition\_name, table\_name, table\_rows from information\_schema.partitions where table\_name = 'ineuron\_course1';

-- dropping a partition

# We can drop partition which will also result in deleting records which are saved in the partition

# All partition can be deleted except the last last partition. Dropping Last partition of the table will give an error and can only be done using drop table command

alter table ineuron\_course1 drop partition P4;

-- Adding a partition

# Partition can only be added based on what was the last value range in the table.

# If Last partition stored value less than 2023 then going forward new partition can only be added which has values more than 2023 with clause less than 2024

# Rest all will give an error

ALTER TABLE ineuron\_course1 ADD PARTITION (PARTITION p1 VALUES LESS THAN (2020));

#Partition by Hash

# RECORDs are stored using modulo operation based on number of partition. If number of partition is 6 then it will be treated as value%6 and whatever is the modulo value partition will be chosen

# In below case based on Course\_launch year %10 and remainder will decide the partition where it gets stored

create table ineuron\_course2(

course\_name varchar(50),

course\_id int,

course\_title varchar(60),

course\_desc varchar(60),

launch\_date date,

course\_fee int,

course\_mentor varchar(60),

course\_launch\_year int

)

partition by hash(course\_launch\_year)

partitions 5

;

# PARTION BY HASH , RECORDs are stored based on Course\_launch year %10 and remainder will decide the partition where it gets stored

insert into ineuron\_course2 values('Machine learning',101,'ML','This is ML course','2019-07-07',3450,'Sudhanshu',2019),

('aiops' , 101 , 'ML', "this is aiops course" ,'2019-07-07',3540,'sudhanshu',2019) ,

('dlcvnlp' , 101 , 'ML', "this is ML course" ,'2020-07-07',3540,'sudhanshu',2020) ,

('aws cloud' , 101 , 'ML', "this is ML course" ,'2020-07-07',3540,'sudhanshu',2020) ,

('blockchain' , 101 , 'ML', "this is ML course" ,'2021-07-07',3540,'sudhanshu',2021) ,

('RL' , 101 , 'ML', "this is ML course" ,'2022-07-07',3540,'sudhanshu',2022) ,

('Dl' , 101 , 'ML', "this is ML course" ,'2022-07-07',3540,'sudhanshu',2022) ,

('interview prep' , 101 , 'ML', "this is ML course" ,'2019-07-07',3540,'sudhanshu',2019) ,

('big data' , 101 , 'ML', "this is ML course" ,'2020-07-07',3540,'sudhanshu',2020) ,

('data analytics' , 101 , 'ML', "this is ML course" ,'2021-07-07',3540,'sudhanshu',2021) ,

('fsds' , 101 , 'ML', "this is ML course" ,'2022-07-07',3540,'sudhanshu',2022) ,

('fsda' , 101 , 'ML', "this is ML course" ,'2021-07-07',3540,'sudhanshu',2021) ,

('fabe' , 101 , 'ML', "this is ML course" ,'2022-07-07',3540,'sudhanshu',2022) ,

('java' , 101 , 'ML', "this is ML course" ,'2020-07-07',3540,'sudhanshu',2020) ,

('MERN' , 101 , 'ML', "this is ML course" ,'2019-07-07',3540,'sudhanshu',2019) ;

select partition\_name, table\_name, table\_rows from information\_schema.partitions ;

select partition\_name, table\_name, table\_rows from information\_schema.partitions where table\_name = 'ineuron\_course2';

#Partition by Key

-- Partition by keys are stored using MD5 hashing algorithm'

create table ineuron\_course3(

course\_name varchar(50),

course\_id int primary key,

course\_title varchar(60),

course\_desc varchar(60),

launch\_date date,

course\_fee int,

course\_mentor varchar(60),

course\_launch\_year int

)

partition by key()

partitions 10

;

insert into ineuron\_course3 values('Machine learning',101,'ML','This is ML course','2019-07-07',3450,'Sudhanshu',2019),

('aiops' , 102 , 'ML', "this is aiops course" ,'2019-07-07',3540,'sudhanshu',2019) ,

('dlcvnlp' , 103 , 'ML', "this is ML course" ,'2020-07-07',3540,'sudhanshu',2020) ,

('aws cloud' , 104 , 'ML', "this is ML course" ,'2020-07-07',3540,'sudhanshu',2020) ,

('blockchain' , 105 , 'ML', "this is ML course" ,'2021-07-07',3540,'sudhanshu',2021) ,

('RL' , 106 , 'ML', "this is ML course" ,'2022-07-07',3540,'sudhanshu',2022) ,

('Dl' , 107 , 'ML', "this is ML course" ,'2022-07-07',3540,'sudhanshu',2022) ,

('interview prep' , 108 , 'ML', "this is ML course" ,'2019-07-07',3540,'sudhanshu',2019) ,

('big data' , 109 , 'ML', "this is ML course" ,'2020-07-07',3540,'sudhanshu',2020) ,

('data analytics' , 110 , 'ML', "this is ML course" ,'2021-07-07',3540,'sudhanshu',2021) ,

('fsds' , 1011 , 'ML', "this is ML course" ,'2022-07-07',3540,'sudhanshu',2022) ,

('fsda' , 1012 , 'ML', "this is ML course" ,'2021-07-07',3540,'sudhanshu',2021) ,

('fabe' , 1013 , 'ML', "this is ML course" ,'2022-07-07',3540,'sudhanshu',2022) ,

('java' , 1014 , 'ML', "this is ML course" ,'2020-07-07',3540,'sudhanshu',2020) ,

('MERN' , 1015 , 'ML', "this is ML course" ,'2019-07-07',3540,'sudhanshu',2019)

;

select partition\_name, table\_name, table\_rows from information\_schema.partitions where table\_name = 'ineuron\_course3';

-- Partition by keys are stored using MD5 hashing algorithm'

select MD5(101);

select MD5(102);

select MD5(103);

select MD5(104);

select MD5(105);

select MD5(106);

#Partition by multiple primary Key

drop table ineuron\_course4;

create table ineuron\_course4(

course\_name varchar(50) not null,

course\_id int not null,

course\_title varchar(60),

course\_desc varchar(60),

launch\_date date,

course\_fee int,

course\_mentor varchar(60),

course\_launch\_year int,

primary key(course\_id, course\_name)

)

partition by key()

partitions 10

;

desc ineuron\_course4;

insert into ineuron\_course4 values('Machine learning',101,'ML','This is ML course','2019-07-07',3450,'Sudhanshu',2019),

('aiops' , 102 , 'ML', "this is aiops course" ,'2019-07-07',3540,'sudhanshu',2019) ,

('dlcvnlp' , 103 , 'ML', "this is ML course" ,'2020-07-07',3540,'sudhanshu',2020) ,

('aws cloud' , 104 , 'ML', "this is ML course" ,'2020-07-07',3540,'sudhanshu',2020) ,

('blockchain' , 105 , 'ML', "this is ML course" ,'2021-07-07',3540,'sudhanshu',2021) ,

('RL' , 106 , 'ML', "this is ML course" ,'2022-07-07',3540,'sudhanshu',2022) ,

('Dl' , 107 , 'ML', "this is ML course" ,'2022-07-07',3540,'sudhanshu',2022) ,

('interview prep' , 108 , 'ML', "this is ML course" ,'2019-07-07',3540,'sudhanshu',2019) ,

('big data' , 109 , 'ML', "this is ML course" ,'2020-07-07',3540,'sudhanshu',2020) ,

('data analytics' , 110 , 'ML', "this is ML course" ,'2021-07-07',3540,'sudhanshu',2021) ,

('fsds' , 1011 , 'ML', "this is ML course" ,'2022-07-07',3540,'sudhanshu',2022) ,

('fsda' , 1012 , 'ML', "this is ML course" ,'2021-07-07',3540,'sudhanshu',2021) ,

('fabe' , 1013 , 'ML', "this is ML course" ,'2022-07-07',3540,'sudhanshu',2022) ,

('java' , 1014 , 'ML', "this is ML course" ,'2020-07-07',3540,'sudhanshu',2020) ,

('MERN' , 1015 , 'ML', "this is ML course" ,'2019-07-07',3540,'sudhanshu',2019)

;

select partition\_name, table\_name, table\_rows from information\_schema.partitions where table\_name = 'ineuron\_course4';

#Partion by List can only store integer

-- drop table ineuron\_course5;

-- create table ineuron\_course5(

-- course\_name varchar(50) not null,

-- course\_id int not null,

-- course\_title varchar(60),

-- course\_desc varchar(60),

-- launch\_date date,

-- course\_fee int,

-- course\_mentor varchar(60),

-- course\_launch\_year int,

-- primary key(course\_id, course\_name)

-- )

-- partition by list(course\_name)

-- (

-- partition p0 values in ('aiops','fsds','java'),

-- partition p1 values in ('fabe','MERN','DL','dlcvnlp'),

-- partition p2 values in('interview prep','big data','D1','data analytics')

-- )

-- ;

#Partion by List

create table ineuron\_course5(

course\_name varchar(50) not null,

course\_id int not null,

course\_title varchar(60),

course\_desc varchar(60),

launch\_date date,

course\_fee int,

course\_mentor varchar(60),

course\_launch\_year int

-- primary key(course\_name, course\_id)

)

partition by list(course\_launch\_year)

(

partition p0 values in (2019,2020),

partition p1 values in (2030,2040),

partition p2 values in(2060,2070)

)

;

-- IN case we try to add values into table where partition values are not defined then it will give error

-- so we should give insert ignore clause to ignore records which has course\_launch year which is not part of partition

insert ignore into ineuron\_course5 values('Machine learning',101,'ML','This is ML course','2019-07-07',3450,'Sudhanshu',2019),

('aiops' , 102 , 'ML', "this is aiops course" ,'2019-07-07',3540,'sudhanshu',2019) ,

('dlcvnlp' , 103 , 'ML', "this is ML course" ,'2020-07-07',3540,'sudhanshu',2020) ,

('aws cloud' , 104 , 'ML', "this is ML course" ,'2020-07-07',3540,'sudhanshu',2020) ,

('blockchain' , 105 , 'ML', "this is ML course" ,'2021-07-07',3540,'sudhanshu',2021) ,

('RL' , 106 , 'ML', "this is ML course" ,'2022-07-07',3540,'sudhanshu',2022) ,

('Dl' , 107 , 'ML', "this is ML course" ,'2022-07-07',3540,'sudhanshu',2022) ,

('interview prep' , 108 , 'ML', "this is ML course" ,'2019-07-07',3540,'sudhanshu',2019) ,

('big data' , 109 , 'ML', "this is ML course" ,'2020-07-07',3540,'sudhanshu',2020) ,

('data analytics' , 110 , 'ML', "this is ML course" ,'2021-07-07',3540,'sudhanshu',2021) ,

('fsds' , 1011 , 'ML', "this is ML course" ,'2022-07-07',3540,'sudhanshu',2022) ,

('fsda' , 1012 , 'ML', "this is ML course" ,'2021-07-07',3540,'sudhanshu',2021) ,

('fabe' , 1013 , 'ML', "this is ML course" ,'2022-07-07',3540,'sudhanshu',2022) ,

('java' , 1014 , 'ML', "this is ML course" ,'2020-07-07',3540,'sudhanshu',2020) ,

('MERN' , 1015 , 'ML', "this is ML course" ,'2019-07-07',3540,'sudhanshu',2019)

;

#Partion by List columns can store categorical value

create table ineuron\_courses6(

course\_name varchar(50) ,

course\_id int(10) ,

course\_title varchar(60),

course\_desc varchar(80),

launch\_date date,

course\_fee int,

course\_mentor varchar(60),

course\_launch\_year int)

partition by list columns(course\_name)(

partition p0 values in('aiops','data analytics','Dl','RL'),

partition p1 values in('fsds' ,'big data','blockchain'),

partition p2 values in('MERN','java','interview prep','fsda')

);

insert ignore into ineuron\_courses6 values('machine\_learning' , 101 , 'ML', "this is ML course" ,'2019-07-07',3540,'sudhanshu',2019) ,

('aiops' , 102 , 'ML', "this is aiops course" ,'2019-07-07',3540,'sudhanshu',2019) ,

('dlcvnlp' , 103 , 'ML', "this is ML course" ,'2020-07-07',3540,'sudhanshu',2020) ,

('aws cloud' , 104 , 'ML', "this is ML course" ,'2020-07-07',3540,'sudhanshu',2020) ,

('blockchain' , 105, 'ML', "this is ML course" ,'2021-07-07',3540,'sudhanshu',2021) ,

('RL' , 106 , 'ML', "this is ML course" ,'2022-07-07',3540,'sudhanshu',2022) ,

('Dl' , 107 , 'ML', "this is ML course" ,'2022-07-07',3540,'sudhanshu',2022) ,

('interview prep' , 108 , 'ML', "this is ML course" ,'2019-07-07',3540,'sudhanshu',2019) ,

('big data' , 109 , 'ML', "this is ML course" ,'2020-07-07',3540,'sudhanshu',2020) ,

('data analytics' , 110 , 'ML', "this is ML course" ,'2021-07-07',3540,'sudhanshu',2021) ,

('fsds' , 1011 , 'ML', "this is ML course" ,'2022-07-07',3540,'sudhanshu',2022) ,

('fsda' , 1012 , 'ML', "this is ML course" ,'2021-07-07',3540,'sudhanshu',2021) ,

('fabe' , 1013 , 'ML', "this is ML course" ,'2022-07-07',3540,'sudhanshu',2022) ,

('java' , 1014 , 'ML', "this is ML course" ,'2020-07-07',3540,'sudhanshu',2020) ,

('MERN' , 1015 , 'ML', "this is ML course" ,'2019-07-07',3540,'sudhanshu',2019);

#Partition by range columns

create table ineuron\_courses7(

course\_name varchar(50) ,

course\_id int(10) ,

course\_title varchar(60),

course\_desc varchar(80),

launch\_date date,

course\_fee int,

course\_mentor varchar(60),

course\_launch\_year int)

partition by range columns(course\_name ,course\_id,course\_launch\_year )(

partition p0 values less than ('aiops',105,2019),

partition p1 values less than ('fsds' ,110,2021),

partition p2 values less than ('MERN',116,2023)

);

select partition\_name , table\_name , table\_rows from information\_schema.partitions where table\_name = 'ineuron\_courses7';

select ('aiops',105,2019) < ('fsds' ,110,2021);

select ('a') > ('b');

insert ignore into ineuron\_courses7 values('machine\_learning' , 101 , 'ML', "this is ML course" ,'2019-07-07',3540,'sudhanshu',2019) ,

('aiops' , 102 , 'ML', "this is aiops course" ,'2019-07-07',3540,'sudhanshu',2019) ,

('dlcvnlp' , 103 , 'ML', "this is ML course" ,'2020-07-07',3540,'sudhanshu',2020) ,

('aws cloud' , 104 , 'ML', "this is ML course" ,'2020-07-07',3540,'sudhanshu',2020) ,

('blockchain' , 105, 'ML', "this is ML course" ,'2021-07-07',3540,'sudhanshu',2021) ,

('RL' , 106 , 'ML', "this is ML course" ,'2022-07-07',3540,'sudhanshu',2022) ,

('Dl' , 107 , 'ML', "this is ML course" ,'2022-07-07',3540,'sudhanshu',2022) ,

('interview prep' , 108 , 'ML', "this is ML course" ,'2019-07-07',3540,'sudhanshu',2019) ,

('big data' , 109 , 'ML', "this is ML course" ,'2020-07-07',3540,'sudhanshu',2020) ,

('data analytics' , 110 , 'ML', "this is ML course" ,'2021-07-07',3540,'sudhanshu',2021) ,

('fsds' , 1011 , 'ML', "this is ML course" ,'2022-07-07',3540,'sudhanshu',2022) ,

('fsda' , 1012 , 'ML', "this is ML course" ,'2021-07-07',3540,'sudhanshu',2021) ,

('fabe' , 1013 , 'ML', "this is ML course" ,'2022-07-07',3540,'sudhanshu',2022) ,

('java' , 1014 , 'ML', "this is ML course" ,'2020-07-07',3540,'sudhanshu',2020) ,

('MERN' , 1015 , 'ML', "this is ML course" ,'2019-07-07',3540,'sudhanshu',2019);

-- SUBPARTITION

create table ineuron\_courses8(

course\_name varchar(50),

course\_id int(10),

course\_title varchar(60),

course\_desc varchar(80),

launch\_date date,

course\_fee int,

course\_mentor varchar(60),

course\_launch\_year int)

partition by range(course\_launch\_year)

subpartition by hash(course\_launch\_year)

subpartitions 5 (

partition p0 values less than (2019) ,

partition p1 values less than (2020) ,

partition p2 values less than (2021) ,

partition p3 values less than (2022)

);

select partition\_name , table\_name , table\_rows from information\_schema.partitions where table\_name = 'ineuron\_courses8';

insert ignore into ineuron\_courses8 values('machine\_learning' , 101 , 'ML', "this is ML course" ,'2019-07-07',3540,'sudhanshu',2019) ,

('aiops' , 102 , 'ML', "this is aiops course" ,'2019-07-07',3540,'sudhanshu',2019) ,

('dlcvnlp' , 103 , 'ML', "this is ML course" ,'2020-07-07',3540,'sudhanshu',2020) ,

('aws cloud' , 104 , 'ML', "this is ML course" ,'2020-07-07',3540,'sudhanshu',2020) ,

('blockchain' , 105, 'ML', "this is ML course" ,'2021-07-07',3540,'sudhanshu',2021) ,

('RL' , 106 , 'ML', "this is ML course" ,'2022-07-07',3540,'sudhanshu',2022) ,

('Dl' , 107 , 'ML', "this is ML course" ,'2022-07-07',3540,'sudhanshu',2022) ,

('interview prep' , 108 , 'ML', "this is ML course" ,'2019-07-07',3540,'sudhanshu',2019) ,

('big data' , 109 , 'ML', "this is ML course" ,'2020-07-07',3540,'sudhanshu',2020) ,

('data analytics' , 110 , 'ML', "this is ML course" ,'2021-07-07',3540,'sudhanshu',2021) ,

('fsds' , 1011 , 'ML', "this is ML course" ,'2022-07-07',3540,'sudhanshu',2022) ,

('fsda' , 1012 , 'ML', "this is ML course" ,'2021-07-07',3540,'sudhanshu',2021) ,

('fabe' , 1013 , 'ML', "this is ML course" ,'2022-07-07',3540,'sudhanshu',2022) ,

('java' , 1014 , 'ML', "this is ML course" ,'2020-07-07',3540,'sudhanshu',2020) ,

('MERN' , 1015 , 'ML', "this is ML course" ,'2019-07-07',3540,'sudhanshu',2019);