LOAN MANAGEMENT SYSTEM USING MYSQL

MYSQL

what is MYSQL?

- ❖ MySQL is an open-source relational database management system (RDBMS) developed by MySQL AB, now owned by Oracle Corporation.
- ❖ It is one of the most popular databases used globally, especially for web applications.
- ❖ Known for its speed, reliability, and ease of use, MySQL supports large-scale databases and is highly customizable.

Key Features:

- Open-source: Free to use and distribute, with a vast developer community.
- Cross-platform: Available on various operating systems (Windows, macOS, Linux).

Basic Concepts

- ❑ Database: Organized collection of data.
- ❑ Table: Collection of rows and columns (records and fields).
- ❑ Schema: The structure that defines the database (tables, views, etc.).

Gradewise

```
create table customer_income_critiria(select *,if(applicantincome > 15000,'Grade A',
if(applicantincome > 9000,"Grade B",
if(applicantincome > 5000,'Middle Class','Low Class'))) as Grades
from customer_income);
select * from customer_income_critiria;
```

Loan_ID	Customer ID	ApplicantIncome	CoapplicantIncome	Property_Area	Loan_Status	Grades
LP001002	IP43001	5849	0	Urban	Y	Middle Class
LP001003	IP43002	4583	1508	Rural	N	Low Class
LP001005	IP43003	3000	0	Urban	Y	Low Class
LP001006	IP43004	2583	2358	Urban	Y	Low Class
LP001008	IP43005	6000	0	Urban	Y	Middle Class
LP001011	IP43006	5417	4196	Urban	Y	Middle Class
LP001013	IP43007	2333	1516	Urban	Y	Low Class
LP001014	IP43008	3036	2504	Semiurban	N	Low Class
LP001018	IP43009	4006	1526	Urban	Y	Low Class

Monthly_Interest_info

```
create table customer_income_status select *,case
when Applicantincome<5000
then case
when Property_area='Rural'
then 3
when Property_area='Semirural'
then 3.5
when Property_area='Urban'
then 5
when Property_area='Semiurban'
then 2.5
end
else 7
end as Interest_percentage from customer_income_critiria;
```

```
select * from customer_income_status;
```

Loan_ID	Customer_ID	ApplicantIncome	CoapplicantIncome	Property_Area	Loan_Status	Grades	Interest_percentage
LP001002	IP43001	5849	0	Urban	Y	Middle Class	7.0
LP001003	IP43002	4583	1508	Rural	N	Low Class	3.0
LP001005	IP43003	3000	0	Urban	Y	Low Class	5.0
LP001006	IP43004	2583	2358	Urban	Y	Low Class	5.0
LP001008	IP43005	6000	0	Urban	Y	Middle Class	7.0
LP001011	IP43006	5417	4196	Urban	Y	Middle Class	7.0
LP001013	IP43007	2333	1516	Urban	Y	Low Class	5.0
LP001014	IP43008	3036	2504	Semiurban	N	Low Class	2.5
LP001018	IP43009	4006	1526	Urban	Y	Low Class	5.0

Trigger

What is a Trigger?

A trigger is a special type of stored procedure in a database that automatically executes in response to specific events on a table, such as inserts, updates, or deletes.

Types of Triggers:

- Row-Level Triggers: Executes once for each row affected by the event (e.g., updating each row's loan status).
- Statement-Level Triggers: Executes once per statement, regardless of the number of rows affected (e.g., updating the CIBIL score status).

Loan Status Update and Cibil Score Management

```
create table loan_status(loan_id text(20),customer_id text(20),loan_amount text(30),
loan_amount_term int,cibil_score int);

create table loan_update_det(loan_id text(20),loan_amount text(30),cibil_score int,
cibil_score_status varchar(50));

delimiter //

create trigger loan_amt before insert on loan_status  for each row
begin
if new.loan_amount is null then
set new.loan_amount='Loan Still Processing';
end if;
end;
//
delimiter ;
```

```
delimiter //
create trigger loan_remark after insert on loan_status for each row
begin
if new.cibil_score>900 then
insert into loan_update_det(loan_id,loan_amount,cibil_score,cibil_score_status)
values (new.loan_id,new.loan_amount,new.cibil_score,'High Cibil Score');
elseif new.cibil_score>750 then
insert into loan_update_det(loan_id,loan_amount,cibil_score,cibil_score_status)
values (new.loan_id,new.loan_amount,new.cibil_score,'No Penalty');
elseif new.cibil_score>0 then
insert into loan_update_det(loan_id,loan_amount,cibil_score,cibil_score_status)
values (new.loan_id,new.loan_amount,new.cibil_score,'Penalty Customer');
elseif new.cibil_score<=0 then
insert into loan_update_det(loan_id,loan_amount,cibil_score,cibil_score_status)
values (new.loan_id,new.loan_amount,new.cibil_score,'Reject Customers');
end if;
end;
//
delimiter ;
```

```
select * from loan_status;
```

loan_id	customer_id	loan_amount	loan_amount_term	cibil_score
LP001002	IP43001	Loan Still Processing	360	303
LP001003	IP43002	128	360	920
LP001005	IP43003	66	360	606
LP001006	IP43004	120	360	851
LP001008	IP43005	141	360	420
LP001011	IP43006	267	360	173
LP001013	IP43007	95	360	650
LP001014	IP43008	158	360	471
LP001018	IP43009	168	360	863

```
select * from loan_update_det;
delete from loan_update_det where loan_amount = 'Loan Still Processing' or
cibil_score_status = 'Reject Customers';
alter table loan_update_det modify column loan_amount int;
```

loan_id	loan_amount	cibil_score	cibil_score_status
LP001003	128	920	High Cibil Score
LP001005	66	606	Penalty Customer
LP001006	120	851	No Penalty
LP001008	141	420	Penalty Customer
LP001011	267	173	Penalty Customer
LP001013	95	650	Penalty Customer
LP001014	158	471	Penalty Customer
LP001018	168	863	No Penalty
LP001020	349	730	Penalty Customer

Insert Values

```
insert into loan_status values
('LP001002',    'IP43001',    Null,    360,    303),
('LP001003',    'IP43002',    '128',   360,    920),
('LP001005',    'IP43003',    '66',    360,    606),
('LP001006',    'IP43004',    '120',   360,    851),
('LP001008',    'IP43005',    '141',   360,    420),
('LP001011',    'IP43006',    '267',   360,    173),
etc....
select * from loan_status;
```

loan_id	customer_id	loan_amount	loan_amount_term	cibil_score
LP001002	IP43001	Loan Still Processing	360	303
LP001003	IP43002	128	360	920
LP001005	IP43003	66	360	606
LP001006	IP43004	120	360	851
LP001008	IP43005	141	360	420
LP001011	IP43006	267	360	173
LP001013	IP43007	95	360	650
LP001014	IP43008	158	360	471
LP001018	IP43009	168	360	863

Update Values

```
update customer_det set gender = 'Female' where  customer_id in
('IP43006','IP43016','IP43508','IP43577','IP43589','IP43593');
update customer_det set gender = 'Male' where customer_id in
('IP43018','IP43038');

update customer_det set age=45 where customer_id='IP43007';
update customer_det set age=32 where customer_id='IP43009';
```

Customer_ID	Customer_name	Gender	Age	Married	Education	Self_Employed	Loan_Id	Region_id
IP43001	Claire Gute	Male	50	No	Graduate	No	LP001002	13.2
IP43002	Darrin Van Huff	Male	66	Yes	Graduate	No	LP001003	13.2
IP43003	Sean O'Donnell	Male	20	Yes	Graduate	Yes	LP001005	13.2
IP43004	Brosina Hoffman	Male	46	Yes	Not Graduate	No	LP001006	13.2
IP43005	Andrew Allen	Male	18	No	Graduate	No	LP001008	13.2
IP43006	Irene Maddox	Female	66	Yes	Graduate	Yes	LP001011	13.2
IP43007	Harold Pawlan	Male	45	Yes	Not Graduate	No	LP001013	13.3
IP43008	Pete Kriz	Male	41	Yes	Graduate	No	LP001014	13.3
IP43009	Alejandro Grove	Male	32	Yes	Graduate	No	LP001018	13.2

customer_det 11

Customer Interest Analysis

```
create table customer_interest_analaysis (select c.loan_id,c.Customer_ID,c.applicantincome,
c.property_area,c.grades,c.interest_percentage,l.loan_amount,l.cibil_score,l.cibil_score_status,
round((c.interest_percentage * l.loan_amount)/100,2) as monthly_interest,
round((c.interest_percentage * l.loan_amount * 12)/100,2) as annual_interest
from customer_income_status c inner join loan_update_det l on
c.loan_id=l.loan_id);
select * from customer_interest_analaysis;
```

loan_id	Customer_ID	applicantincome	property_area	grades	interest_percentage	loan_amount	cibil_score	cibil_score_status	monthly_interest	annual_interest
LP001003	IP43002	4583	Rural	Low Class	3.0	128	920	High Cibil Score	3.84	46.08
LP001005	IP43003	3000	Urban	Low Class	5.0	66	606	Penalty Customer	3.30	39.60
LP001006	IP43004	2583	Urban	Low Class	5.0	120	851	No Penalty	6.00	72.00
LP001008	IP43005	6000	Urban	Middle Class	7.0	141	420	Penalty Customer	9.87	118.44
LP001011	IP43006	5417	Urban	Middle Class	7.0	267	173	Penalty Customer	18.69	224.28
LP001013	IP43007	2333	Urban	Low Class	5.0	95	650	Penalty Customer	4.75	57.00
LP001014	IP43008	3036	Semiurban	Low Class	2.5	158	471	Penalty Customer	3.95	47.40
LP001018	IP43009	4006	Urban	Low Class	5.0	168	863	No Penalty	8.40	100.80
LP001020	IP43010	12841	Semiurban	Grade B	7.0	349	730	Penalty Customer	24.43	293.16

Customer Details

```
select * from customer_det;
```

Customer_ID	Customer_name	Gender	Age	Married	Education	Self_Employed	Loan_Id	Region_id
IP43001	Claire Gute	Male	50	No	Graduate	No	LP001002	13.2
IP43002	Darrin Van Huff	Male	66	Yes	Graduate	No	LP001003	13.2
IP43003	Sean O'Donnell	Male	20	Yes	Graduate	Yes	LP001005	13.2
IP43004	Brosina Hoffman	Male	46	Yes	Not Graduate	No	LP001006	13.2
IP43005	Andrew Allen	Male	18	No	Graduate	No	LP001008	13.2
IP43006	Irene Maddox	Female	66	Yes	Graduate	Yes	LP001011	13.2
IP43007	Harold Pawlan	Male	45	Yes	Not Graduate	No	LP001013	13.3
IP43008	Pete Kriz	Male	41	Yes	Graduate	No	LP001014	13.3
IP43009	Alejandro Grove	Male	32	Yes	Graduate	No	LP001018	13.2

Joining Table (Output 1)

```
select i.loan_id,i.customer_id,i.applicantincome,i.property_area,
i.grades,i.interest_percentage,i.loan_amount,i.cibil_score,i.cibil_score_status,
i.monthly_interest,i.annual_interest,c.customer_name,c.gender,c.age,c.married,
c.education,c.self_employed,s.postal_code,s.segment,s.state,r.region,r.region_id
from customer_interest_analaysis i inner join  customer_det c on
i.loan_id=c.loan_id inner join  country_state s on
c.customer_id=s.customer_id inner join region_info r on
s.region_id=r.region_id;
```

loan_id	customer_id	applicantincome	property_area	grades	interest_per	loan_amount	cibil_score	cibil_score_status	monthly_interest	annual_interest	customer_name	gende
LP001003	IP43002	4583	Rural	Low Class	3.0%	128	920	High Cibil Score	3.84	46.08	Darrin Van Huff	Male
LP001005	IP43003	3000	Urban	Low Class	5.0%	66	606	Penalty Customer	3.30	39.60	Sean O'Donnell	Male
LP001006	IP43004	2583	Urban	Low Class	5.0%	120	851	No Penalty	6.00	72.00	Brosina Hoffman	Male
LP001008	IP43005	6000	Urban	Middle Class	7.0%	141	420	Penalty Customer	9.87	118.44	Andrew Allen	Male
LP001011	IP43006	5417	Urban	Middle Class	7.0%	267	173	Penalty Customer	18.69	224.28	Irene Maddox	Female
LP001013	IP43007	2333	Urban	Low Class	5.0%	95	650	Penalty Customer	4.75	57.00	Harold Pawlan	Male
LP001014	IP43008	3036	Semiurban	Low Class	2.5%	158	471	Penalty Customer	3.95	47.40	Pete Kriz	Male
LP001018	IP43009	4006	Urban	Low Class	5.0%	168	863	No Penalty	8.40	100.80	Alejandro Grove	Male

Mismatch Details (Output 2)

```
select c.*,i.* from customer_det c
left join customer_interest_analaysis i on
c.customer_id=i.customer_id where
i.customer_id is null;
```

Customer_ID	Customer_name	Gender	Age	Married	Education	Self_Employed	Loan_Id	Region_id	loan_id	customer_id
IP43001	Claire Gute	Male	50	No	Graduate	No	LP001002	13.2	NULL	NULL
IP43036	Duane Noonan	Male	64	Yes	Graduate	No	LP001106	13.2	NULL	NULL
IP43064	Jonathan Doherty	Male	26	Yes	Graduate	No	LP001213	13.4	NULL	NULL
IP43082	Shirley Jackson	Male	44	Yes	Graduate	Yes	LP001266	13.3	NULL	NULL
IP43096	Logan Currie	Male	67	No	Graduate	NULL	LP001326	13.3	NULL	NULL
IP43103	Joni Blumstein	Male	60	Yes	Graduate	No	LP001350	13.4	NULL	NULL
IP43104	David Smith	Male	43	Yes	Graduate	No	LP001356	13.3	NULL	NULL

High Cibil Score (Output 3)

loan_id	customer_id	applicantincome	property_area	grades	Interest_per	loan_amount	cibil_score	cibil_score_status
LP001068	IP43027	2799	Semiurban	Low Class	2.5%	122	999	High Cibil Score
LP001900	IP43276	2750	Semiurban	Low Class	2.5%	115	999	High Cibil Score
LP001422	IP43120	10408	Urban	Grade B	7.0%	259	997	High Cibil Score
LP001333	IP43098	1977	Semiurban	Low Class	2.5%	50	994	High Cibil Score
LP001280	IP43087	3333	Semiurban	Low Class	2.5%	99	985	High Cibil Score
LP002527	IP43476	16525	Rural	Grade A	7.0%	150	984	High Cibil Score
LP001761	IP43230	6400	Rural	Middle Class	7.0%	200	982	High Cibil Score
LP001836	IP43252	3427	Urban	Low Class	5.0%	138	982	High Cibil Score

```
select * from customer_interest_analaysis order by cibil_score desc;
```

Customer_id	Loan_Id	Customer_name	Region_id	Postal_Code	Segment	State
IP43002	LP001003	Darrin Van Huff	13.2	90036	Corporate	California
IP43007	LP001013	Harold Pawlan	13.3	76106	Home Office	Texas
IP43011	LP001024	Ken Black	13.3	68025	Corporate	Nebraska
IP43016	LP001032	Matt Abelman	13.3	77095	Home Office	Texas
IP43017	LP001034	Gene Hale	13.3	75080	Corporate	Texas
IP43018	LP001036	Steve Nguyen	13.3	77041	Home Office	Texas
IP43019	LP001038	Linda Cazamias	13.3	60540	Corporate	Illinois
IP43020	LP001041	Ruben Ausman	13.2	90049	Corporate	California
IP43021	LP001043	Erin Smith	13.2	32935	Corporate	Florida

Store Procedure

```
delimiter //
create procedure cus_full_det()
Begin
select * from country_state where segment in ('Home
Office','corporate');
End //
Delimiter ;
Call cus_ful_det;
```

Customer_ID	Customer_name	Gender	Age	Married	Education	Self_Employed	Loan_Id	Region_id
IP43001	Claire Gute	Male	50	No	Graduate	No	LP001002	13.2
IP43002	Darrin Van Huff	Male	66	Yes	Graduate	No	LP001003	13.2
IP43003	Sean O'Donnell	Male	20	Yes	Graduate	Yes	LP001005	13.2
IP43004	Brosina Hoffman	Male	46	Yes	Not Graduate	No	LP001006	13.2
IP43005	Andrew Allen	Male	18	No	Graduate	No	LP001008	13.2
IP43006	Irene Maddox	Female	66	Yes	Graduate	Yes	LP001011	13.2
IP43007	Harold Pawlan	Male	45	Yes	Not Graduate	No	LP001013	13.3
IP43008	Pete Kriz	Male	41	Yes	Graduate	No	LP001014	13.3
IP43009	Alejandro Grove	Male	32	Yes	Graduate	No	LP001018	13.2

Thank You