Exercises

**Q1. Consider a database LOANS with the following tuples:**



1. Create the table Loans and insert tuples in it.

create table LOANS(ACCNo int,Cust\_Name varchar(20),Loan\_Amount number,installments integer,Int\_Rate decimal(10,2),Start\_Date date,interest integer);

insert into LOANS values('1','R K Gipta',300000,36,12.00,'19-july-09',1200);

insert into LOANS values(2,'S P Shanna',500000,48,10.00,'22-Mar-09',1800);

insert into LOANS values(3,'K P Jain',300000,36,NULL,'08-Mar-07',1600);

insert into LOANS values(4,'M P Yadavu',800000,60,10.00,'06-Dec-08',2250);

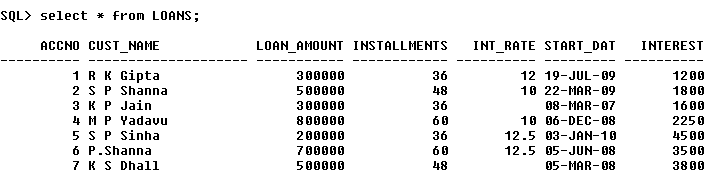
insert into LOANS values(5,'S P Sinha',200000,36,12.50,'03-Jan-10',4500);

insert into LOANS values(6,'P.Shanna',700000,60,12.50,'05-Jun-08',3500);

insert into LOANS values(7,'K S Dhall',500000,48,NULL,'05-Mar-08',3800);

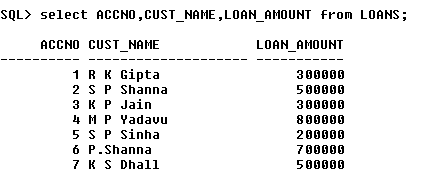
1. Display the details of all the loans.

select \* from LOANS;



1. Display the AccNo, Cust\_Name, and Loan\_Amount of all the loans.

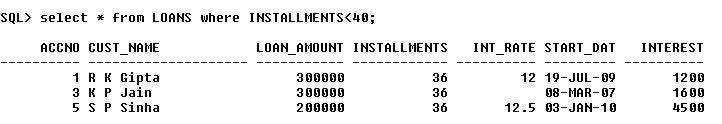
select ACCNO,CUST\_NAME,LOAN\_AMOUNT from LOANS;



Conditional Select using Where Clause

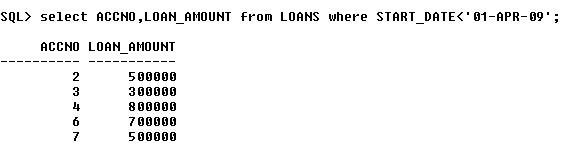
1. Display the details of all the loans with less than 40 instalments.

select \* from LOANS where INSTALLMENTS<40;



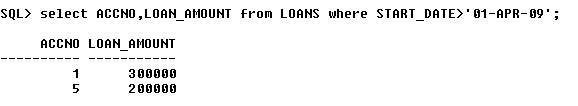
1. Display the AccNo and Loan\_Amount of all the loans started before 01-04-2009.

select ACCNO,LOAN\_AMOUNT from LOANS where START\_DATE<'01-APR-09';



1. Display the Int\_Rate of all the loans started after 01-04-2009.

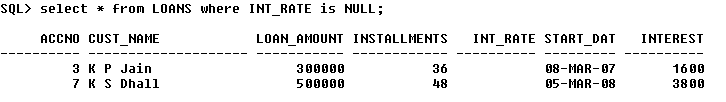
select ACCNO,LOAN\_AMOUNT from LOANS where START\_DATE>'01-APR-09';



Using NULL

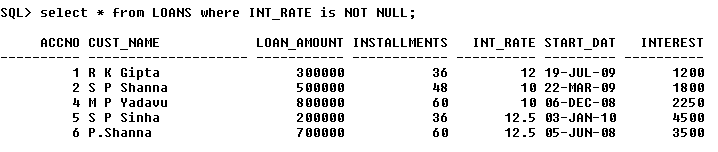
1. Display the details of all the loans whose rate of interest is NULL.

select \* from LOANS where INT\_RATE is NULL;



1. Display the details of all the loans whose rate of interest is not NULL.

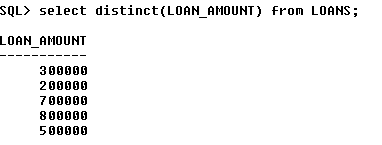
select \* from LOANS where INT\_RATE is NOT NULL;



Using DISTINCT Clause

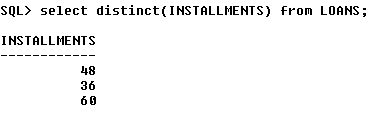
1. Display the amounts of various loans from the table LOANS. A loan amount should appear only once.

select distinct(LOAN\_AMOUNT) from LOANS;



1. Display the number of installments of various loans from the table LOANS. An instalment should appear only once.

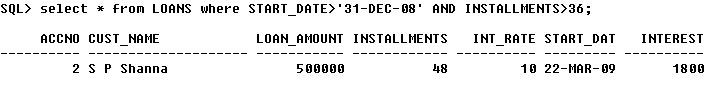
select distinct(INSTALLMENTS) from LOANS;



Using Logical Operators (NOT, AND, OR) and Between

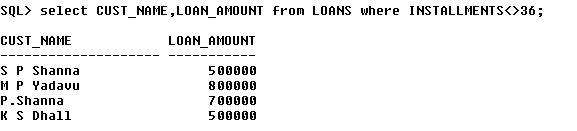
1. Display the details of all the loans started after 31-12-2008 for which the number of instalments are more than 36.

select \* from LOANS where START\_DATE>'31-DEC-08' AND INSTALLMENTS>36;



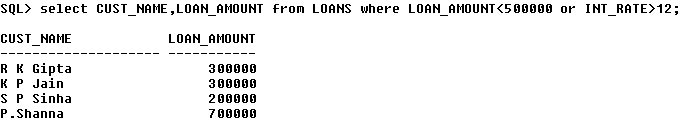
1. Display the Cust\_Name and Loan\_Amount for all the loans which do not have number of instalments 36.

select CUST\_NAME,LOAN\_AMOUNT from LOANS where INSTALLMENTS<>36;



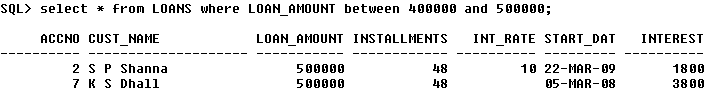
1. Display the Cust\_Name and Loan\_Amount for all the loans for which the loan amount is less than 500000 or int\_rate is more than 12.

select CUST\_NAME,LOAN\_AMOUNT from LOANS where LOAN\_AMOUNT<500000 or INT\_RATE>12;



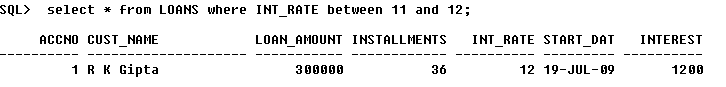
1. Display the details of all the loans whose Loan\_Amount is in the range 400000 to 500000.

select \* from LOANS where LOAN\_AMOUNT between 400000 and 500000;



1. Display the details of all the loans whose rate of interest is in the range 11% to 12%.

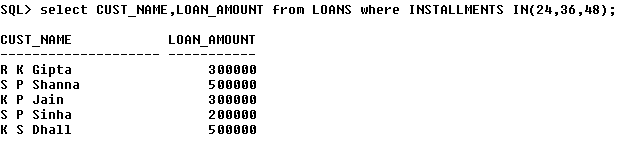
select \* from LOANS where INT\_RATE between 11 and 12;



Using IN Operator

1. Display the Cust\_Name and Loan\_Amount for all the loans for which the number of installments are 24, 36, or 48. (Using IN operator)

select CUST\_NAME,LOAN\_AMOUNT from LOANS where INSTALLMENTS IN(24,36,48);



Using LIKE Operator

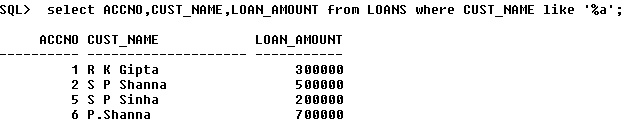
1. Display the AccNo, Cust\_Name, and Loan\_Amount for all the loans for which the Cust\_Name ends with 'Sharma'.

select ACCNO,CUST\_NAME,LOAN\_AMOUNT from LOANS where CUST\_NAME like '%Sharma';



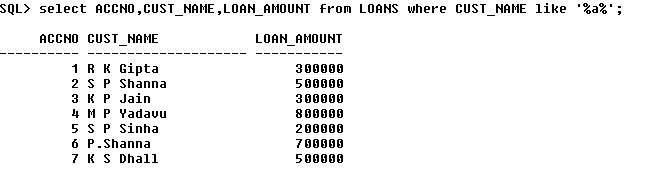
1. Display the AccNo, Cust\_Name, and Loan\_Amount for all the loans for which the Cust\_Name ends with 'a'.

select ACCNO,CUST\_NAME,LOAN\_AMOUNT from LOANS where CUST\_NAME like '%a';



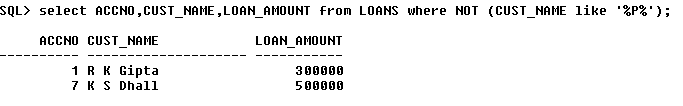
1. Display the AccNo, Cust\_Name, and Loan\_Amount for all the loans for which the Cust\_Name contains 'a'.

select ACCNO,CUST\_NAME,LOAN\_AMOUNT from LOANS where CUST\_NAME like '%a%';



1. Display the AccNo, Cust\_Name, and Loan\_Amount for all the loans for which the Cust\_Name does not contain 'P'.

select ACCNO,CUST\_NAME,LOAN\_AMOUNT from LOANS where NOT (CUST\_NAME like '%P%');



1. Display the AccNo, Cust\_Name, and Loan\_Amount for all the loans for which the Cust\_Name contains 'a' as the second last character.

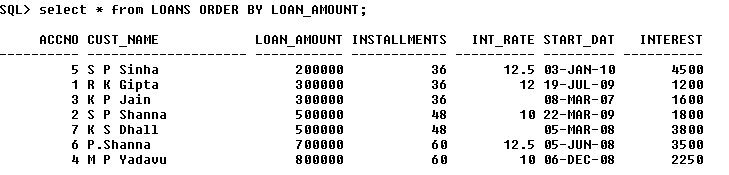
select ACCNO,CUST\_NAME,LOAN\_AMOUNT from LOANS where CUST\_NAME like '%a\_';



Using ORDER BY clause

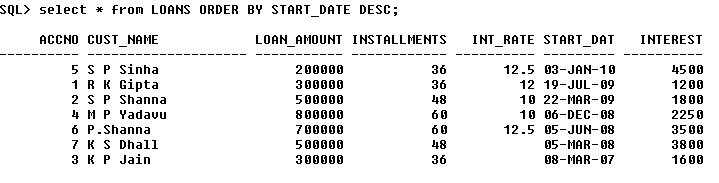
1. Display the details of all the loans in the ascending order of their Loan\_Amount.

select \* from LOANS ORDER BY LOAN\_AMOUNT;



1. Display the details of all the loans in the descending order of their Start\_Date.

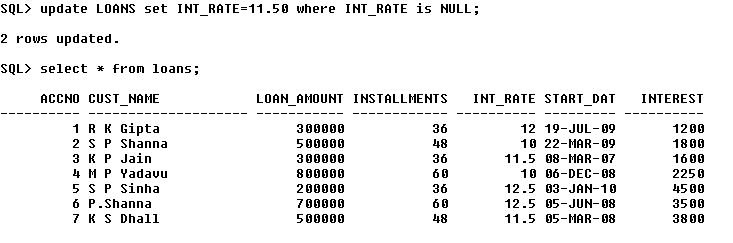
select \* from LOANS ORDER BY START\_DATE DESC;



Using UPDATE, DELETE, ALTER TABLE

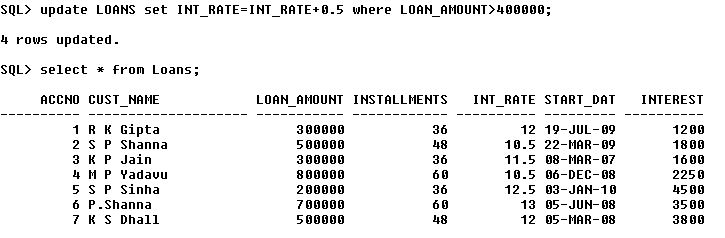
1. Put the interest rate 11.50% for all the loans for which interest rate is NULL.

update LOANS set INT\_RATE=11.50 where INT\_RATE is NULL;



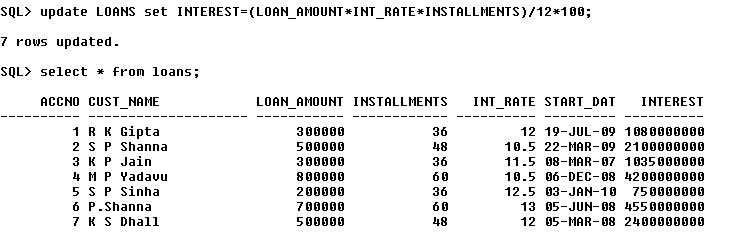
1. Increase the interest rate by 0.5% for all the loans for which the loan amount is more than 400000.

update LOANS set INT\_RATE=INT\_RATE+0.5 where LOAN\_AMOUNT>400000;



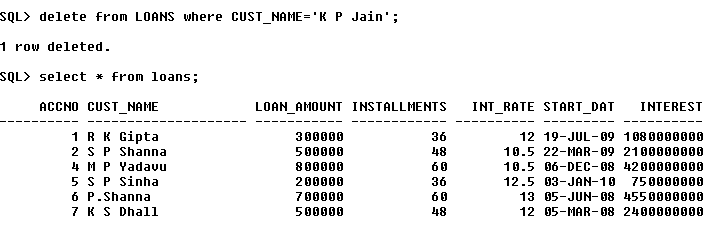
1. For each loan replace Interest with (Loan\_Amount\*Int\_Rate\*Instalments) 12\*100.

update LOANS set INTEREST=(LOAN\_AMOUNT\*INT\_RATE\*INSTALLMENTS)/12\*100;



1. Delete the records of all the loans of 'K.P. Jain'

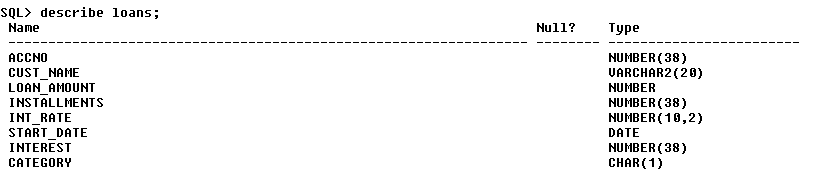
delete from LOANS where CUST\_NAME='K P Jain';



1. Add another column Category of type CHAR(1) in the Loan table.

alter table LOANS add category char(1);

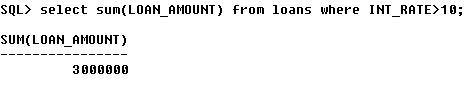




Using Aggregate Functions

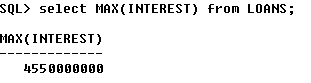
1. Display the sum of all Loan Amount for whose Interest rate is greater than 10.

select sum(LOAN\_AMOUNT) from loans where INT\_RATE>10;



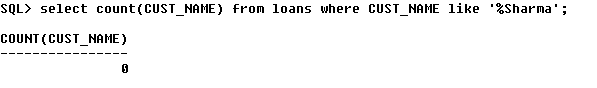
1. Display the Maximum Interest from Loans table.

select MAX(INTEREST) from LOANS;



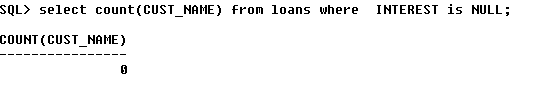
1. Display the count of all loan holders whose name is ending with ‘Sharma’.

select count(CUST\_NAME) from loans where CUST\_NAME like '%Sharma';



1. Display the count of all loan holders whose Interest is Null.

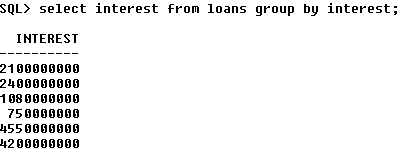
select count(CUST\_NAME) from loans where INTEREST is NULL;



Using Group By Clause

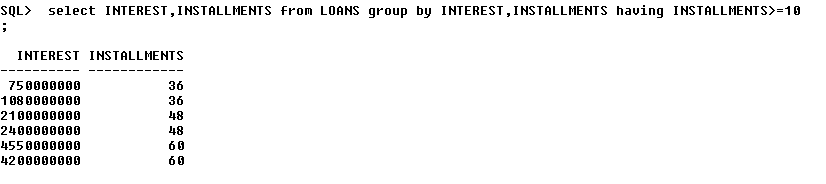
1. Display the Interest wise details of Loan Account Holders.

select interest from loans group by interest;



1. Display the Interest wise details of Loan Account Holders with at least 10 installments remaining.

select INTEREST,INSTALLMENTS from LOANS group by INTEREST,INSTALLMENTS having INSTALLMENTS>=10;



1. Display the Interest wise count of all loan holders whose Installment due is more than 5 in each group.

select count(interest),installments from loans group by interest,installments having installments>5;

