**NHT Program**

**RDBMS Exercise**

**Exercise – 1**

**Database Creation**

**Create a Database named “Hypermarket”**

**Table Creation**

**Create table Sales\_Rep, Consumer and Invoice as per the structure given below :**

**Table : Sales\_Rep**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Field | Type | Null | Key | Default | Extra |
| Rep\_ID | int (8) | NO | PRI | NULL |  |
| Name | varchar(30) | NO |  | NULL |  |
| City | varchar(15) | NO |  | NULL |  |
| Commision | double(5,2) | NO |  | NULL |  |

**Table : Consumer**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Field | Type | Null | Key | Default | Extra |
| Consumer\_ID | int(5) | NO | PRI | NULL |  |
| Consumer\_Name | varchar(30) | NO |  | NULL |  |
| City | varchar(15) | NO |  | NULL |  |
| Grade | int(3) | Yes |  | NULL |  |
| Rep\_ID | int(8) | No | Foreign Key | NULL |  |

**Table : Invoice**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Field | Type | Null | Key | Default | Extra |
| Invoice\_ID | int(5) | NO | PRI | NULL |  |
| Invoice\_amount | double | NO |  | NULL |  |
| Invoice\_Date | Date | NO |  | NULL |  |
| Consumer\_ID | int(5) | NO |  | NULL |  |
| Rep\_ID | int(8) | Yes | Foreign Key | NULL |  |

**Solution**

Create Database hypermarket

create table Sales\_Rep

(

Rep\_ID integer(8) not null ,

Name varchar(30) not null,

City varchar(15) not null,

commision double(5,2) not null,

constraint pk\_sales\_rep primary key(Rep\_ID));

create table Consumer

(

Consumer\_ID integer(5) not null , Consumer\_Name varchar(30) not null , City varchar(15) not null , Grade int(3) , Rep\_ID int(8) not null , constraint pk\_Consumer\_ID primary key(Consumer\_ID),foreign key(Rep\_ID) references Sales\_Rep(Rep\_ID)

);

create table Invoice

(

Invoice\_ID int(5) not null, Invoice\_amount double not null,

Invoice\_Date date not null ,

Consumer\_ID int(5) not null ,

Rep\_ID int(8) not null,

constraint pk\_invoice primary key(Invoice\_ID),

foreign key(Consumer\_ID) references Consumer(Consumer\_ID),

foreign key(Rep\_ID) references Sales\_Rep(Rep\_ID)

);

**Exercise – 2**

**Data Insertion**

**Insert the following data to the repective table**

**Table : Sales\_Rep**



**Table : Consumer**



**Table : Invoice**



**Solution**

insert into Sales\_Rep values (1001, 'Anthony G', 'New Delhi', 0.25);

insert into Sales\_Rep values (1002 'Rejina R', 'Bangalore', 0.15);

insert into Sales\_Rep values (1005, 'Jaya Prasad','Chennai',0.11);

insert into Sales\_Rep values (1006, 'Diptish' , 'Kolkatta' ,0.12);

insert into Sales\_Rep values (1007, 'Abbas' ,'Hyderabad', 0.10);

insert into Sales\_Rep values (1003, 'Santhosh', 'Mumbai' , 0.12);

insert into Consumer values (3002,'Nirav Parmar' , 'New Delhi', 100,1001);

insert into Consumer values (3007,'Harish Manana' ,'New Delhi', 200,1001);

insert into Consumer values (3005,'James' , 'Bangalore',200,1002);

insert into Consumer values (3008,'Rajesh Kumar' , 'Bangalore' , 300, 1002);

insert into Consumer values (3004,'Somsubhra' ,'Kolkatta' , 300, 1006);

insert into Consumer values (3009, 'Sharon George', 'Mumbai', 100 ,1003);

insert into Consumer values (3003,'Ram Sangeeth' ,'Hyderabad', 200, 1007);

insert into Consumer values (3001,'Mary', 'Chennai' , null, 1005);

insert into Invoice values (10001 , 1500.50, '2017-10-05' , 3005, 1002);

insert into Invoice values (10009 , 2700.60, '2017-09-10' , 3001, 1005);

insert into Invoice values (10002 , 6560.20, '2017-10-05' , 3002, 1001);

insert into Invoice values (10004 , 1100.50, '2017-08-17' , 3009, 1003);

insert into Invoice values (10007 , 9480.50, '2017-09-10' , 3005, 1002);

insert into Invoice values (10005 , 2400.60, '2017-07-27' , 3007, 1001);

insert into Invoice values (10008 , 5760.00, '2017-09-10' , 3002, 1001);

insert into Invoice values (10010 , 1983.43, '2017-10-10' , 3004, 1006);

insert into Invoice values (10003 , 2480.40, '2017-10-10' , 3009, 1003);

insert into Invoice values (10012 , 2500.45, '2017-06-27' , 3008, 1002);

insert into Invoice values (10011 , 7500.29, ‘2017-08-17' , 3003, 1007);

insert into Invoice values (10013 , 3045.60, '2017-04-25' , 3002, 1001);

**Exercise – 3**

**Selection**

Write a SQL Query to retrieve the details of the Consumer like

Consumer\_ID, Consumer\_Name, City , Grade , Rep\_ID who are from

Bangalore and Kolkatta.

Write a SQL Query to retrieve the details of the Invoice

like Invoice\_ID, Invoice\_Date, Consumer\_ID, Rep\_ID, Invoice\_Amount

whose Invoice\_Amount is more than 5000.

Write a SQL Query to retrieve the details of the Sales Rep like

Rep\_ID, Name, City ,Commision who are from city that ends with 'i'

**Solution**

Select Consumer\_ID, Consumer\_Name, City , Grade , Rep\_ID

from Consumer

where city = 'Bangalore' or city = 'Kolkatta';

Select Invoice\_ID, Invoice\_Date, Consumer\_ID, Rep\_ID, Invoice\_Amount

from Invoice

where Invoice\_Amount > 5000;

select Rep\_ID, Name, City, commision

from Sales\_Rep

where city like '%i';

**Exercise – 4**

**Projection**

Write a SQL statement to display specific columns like name, city and commision for all the salesmen.

Write a query to display all the details of the Invoice like Invoice\_Date,

Rep\_ID, Invoice\_ID and Invoice\_Amount.

**Solution**

SELECT name, commision, city from Sales\_Rep;

Select Invoice\_Date, Rep\_ID, Invoice\_ID, Invoice\_Amount

from Invoice;

**Exercise – 5**

**OrderBy, GroupBy Clauses**

Write a SQL Statement to fetch the Details Consumer like

Consumer\_ID, Consumer\_Name , City , Grade in alphabetical

order of Name.

Write a SQL statement which selects the highest Invoice Value

for each Sales Rep.

**Solution**

select Consumer\_ID , Consumer\_Name , City , Grade

from Consumer

order by Consumer\_Name;

select Rep\_ID, max(Invoice\_Amount)

from Invoice

group by Rep\_ID;

**Exercise – 6**

**SQL Joins**

Write a SQL statement to find the list of Consumers and Sales\_Rep

who lives in the same city where their customer lives,

and gets a commission is above 12%.

Write a SQL statement to find the details of a Invoice

i.e. Invoice\_ID, Invoice\_Date, Invoice\_Amount,

which Consumer gives the order and which salesman works

for that Consumer and commission rate he gets for an order.

**Solution**

SELECT a.Consumer\_Name AS "Consumer Name",

a.city, b.name AS "SalesRep", b.city,b.commision

FROM Consumer a

INNER JOIN Sales\_Rep b

ON a.Rep\_ID=b.Rep\_ID

WHERE b.commision>.12

AND a.city = b.city;

SELECT a.Invoice\_ID,a.Invoice\_Date,a.Invoice\_Amount,

b.Consumer\_Name AS "Customer Name", b.Grade,

c.Name AS "SalesRep", c.commision

FROM Invoice a

INNER JOIN Consumer b

ON a.Consumer\_ID=b.Consumer\_ID

INNER JOIN Sales\_Rep c

ON a.Rep\_ID =c.Rep\_ID;

**Exercise – 7**

**SubQueries**

Write a query to display all the Invoice details for the

salesman who belongs to the city Kolkatta.

Write a query to find all Invoices with Invoice amount which

are above average invoice amounts for their Consumers.

**Solution**

SELECT a.Consumer\_Name AS "Consumer Name",

a.city, b.name AS "SalesRep", b.city,b.commision

FROM Consumer a

INNER JOIN Sales\_Rep b

ON a.Rep\_ID=b.Rep\_ID

WHERE b.commision>.12

AND a.city = b.city;

SELECT a.Invoice\_ID,a.Invoice\_Date,a.Invoice\_Amount,

b.Consumer\_Name AS "Customer Name", b.Grade,

c.Name AS "SalesRep", c.commision

FROM Invoice a

INNER JOIN Consumer b

ON a.Consumer\_ID=b.Consumer\_ID

INNER JOIN Sales\_Rep c

ON a.Rep\_ID =c.Rep\_ID;