**Database Name :- Student-Marks database**

sybcs=# select \* from student;

rollno | name | address | class

--------+-------+--------+------

1 | vishal | pimpri | sybcs

2 | Anup | Nigdi | sybcs

3 | Ashish | pimpri | sybcs

(3 rows)

sybcs=# select \* from subject;

scode | sname

-------+-----------

C1 | DS

C2 | DBMS

E1 | DigitalEtc

E2 | Micro

(4 rows)

sybcs=# select \* from stud\_sub;

rollno | scode | marks\_scored

--------+------+-------------

1 | C1 | 50

1 | C2 | 60

1 | E1 | 55

1 | E2 | 58

2 | C1 | 52

2 | C2 | 50

2 | E1 | 70

2 | E2 | 65

3 | C1 | 54

3 | C2 | 55

3 | E1 | 67

3 | E2 | 66

(12 rows)

--------------------------------------------------------------

**Cursor**

**a)**

sybcs=# create or replace function info(text)

sybcs-# returns text as'

sybcs'# declare

sybcs'# addr alias for $1;

sybcs'# nm student.name%type;

sybcs'# sub\_code stud\_sub.scode%type;

sybcs'# mscored stud\_sub.marks\_scored%type;

sybcs'# c1 cursor for select name, scode, marks\_scored from student,stud\_sub

where student.rollno=stud\_sub.rollno and address=addr;

sybcs'# begin

sybcs'# open c1;

sybcs'# loop

sybcs'# fetch c1 into nm,sub\_code,mscored;

sybcs'# exit when not found;

sybcs'# raise notice ''% % % '', nm,sub\_code,mscored;

sybcs'# end loop;

sybcs'# close c1;

sybcs'# return null;

sybcs'# end;'

sybcs-# language 'plpgsql';

CREATE FUNCTION

O/P :-

sybcs=# select info('pimpri');

NOTICE: vishal C1 50

NOTICE: vishal C2 60

NOTICE: vishal E1 55

NOTICE: vishal E2 58

NOTICE: Ashish C1 54

NOTICE: Ashish C2 55

NOTICE: Ashish E1 67

NOTICE: Ashish E2 66

info

------

(1 row)

**b)**

sybcs=# create or replace function tot\_percent()

sybcs-# returns text as'

sybcs'# declare

sybcs'# rno stud\_sub.rollno%type;

sybcs'# total\_mks integer;

sybcs'# percentage real;

sybcs'# c1 cursor for select rollno, sum(marks\_scored)

from stud\_sub group by rollno;

sybcs'# begin

sybcs'# raise notice '' rollno total marks percentage '';

sybcs'# open c1;

sybcs'# loop

sybcs'# fetch c1 into rno, total\_mks;

sybcs'# percentage:=(100\*total\_mks)/320;

sybcs'# exit when not found;

sybcs'# raise notice '' % % % '',rno,total\_mks,percentage;

sybcs'# end loop;

sybcs'# close c1;

sybcs'# return null;

sybcs'# end;'

sybcs-# language 'plpgsql';

CREATE FUNCTION

O/P:-

sybcs=# select tot\_percent();

NOTICE: rollno total marks percentage

NOTICE: 1 223 69

NOTICE: 3 242 75

NOTICE: 2 237 74

tot\_percent

-------------

(1 row)

--------------------------------------------------------------

**Database Name:-Railway reservation database**

railway=# select \* from train;

train\_no | tname | depart\_time | arrival\_time | source\_stn | dest\_stn | no\_of\_res\_bogies | bogie\_capacity

----------+--------------------+------------+-------------+-----------+---------+-----------------+---------------

101 | shatabdi express | 09:00:00 | 08:50:00 | pune | delhi | 10 | 50

102 | maharashtra express | 02:00:00 | 01:50:00 | pune | nagpur | 12 | 40

103 | rajadhani express | 06:05:00 | 05:55:00 | mumbai | delhi | 15 | 60

(3 rows)

railway=# select \* from passenger;

pid | pname | address | age | gender

-----+-----------+-----------+----+-------

1 | vishal | pimpri | 25 | M

2 | Amar | dadar | 30 | M

3 | Mr. Jadhav | chinchawad | 40 | M

4 | Atul | nigdi | 25 | M

5 | Ajay | nigdi | 35 | M

(5 rows)

railway=# select \* from ticket;

train\_no | pid | ticket\_no | bogie\_no | no\_of\_berths | date | ticket\_amt | status

----------+----+----------+---------+-------------+-----------+-----------+-------

101 | 4 | 5001 | 8 | 23 | 2009-05-13 | 2000.00 | c

102 | 3 | 5002 | 10 | 25 | 2009-05-13 | 15000.00 | w

101 | 1 | 5003 | 12 | 2 | 2009-05-18 | 3000.00 | w

103 | 2 | 5004 | 5 | 15 | 2009-05-18 | 1000.00 | c

102 | 5 | 5005 | 6 | 10 | 2009-05-18 | 2000.00 | w

(5 rows)

--------------------------------------------------------------

**Cursors**

**a)**

railway=# create or replace function conf\_bookings()

railway-# returns integer as'

railway'# declare

railway'# bookings integer;

railway'# c1 cursor for select sum(no\_of\_berths) from ticket where status=''c'' and date=''5/18/2009'';

railway'# begin

railway'# open c1;

railway'# loop

railway'# fetch c1 into bookings;

railway'# exit when not found;

railway'# raise notice ''%'',bookings;

railway'# end loop;

railway'# close c1;

railway'# return null;

railway'# end;'

railway-# language 'plpgsql';

CREATE FUNCTION

O/P:-

railway=# select conf\_bookings();

NOTICE: 15

conf\_bookings

---------------

(1 row)

**b)**

railway=# create or replace function not\_reserved()

railway-# returns integer as'

railway'# declare

railway'# tst integer;

railway'# tsr integer;

railway'# snr integer;

railway'# c1 cursor for select sum(no\_of\_res\_bogies \* bogie\_capacity) from train;

railway'# begin

railway'# select into tsr sum(no\_of\_berths) from ticket where status=''c'' and date=''2009-05-18'';

railway'# open c1;

railway'# loop

railway'# fetch c1 into tst;

railway'# snr=tst-tsr;

railway'# exit when not found;

railway'# raise notice ''% '',snr;

railway'# end loop;

railway'# close c1;

railway'# return null;

railway'# end;'

railway-# language 'plpgsql';

CREATE FUNCTION

O/P:-

railway=# select not\_reserved();

NOTICE: 1865

not\_reserved

--------------

(1 row)

--------------------------------------------------------------------------------------------------------------------------------------

**Database Name:-Bus Transport database**

sybcs=# create table route

sybcs-# (rno integer primary key,

sybcs(# source varchar(20),

sybcs(# destination varchar(20),

sybcs(# no\_st integer);

NOTICE: CREATE TABLE / PRIMARY KEY will create implicit index "route\_pkey" for table "route"

CREATE TABLE

sybcs=# insert into route values (1,'pune st','swargate',10);

INSERT 0 1

sybcs=# select \* from route;

rno | source | destination | no\_st

-----+--------+------------+------

1 | pune st | swargate | 10

2 | m.col | pune st | 15

(2 rows)

sybcs=#

sybcs=#

sybcs=# create table bus

sybcs-# (bno integer primary key,

sybcs(# capacity integer not null,

sybcs(# depot\_name varchar(20),

sybcs(# rno integer references route(rno));

NOTICE: CREATE TABLE / PRIMARY KEY will create implicit index "bus\_pkey" for table "bus"

CREATE TABLE

sybcs=# insert into bus values (101,50,'swargate',1);

INSERT 0 1

sybcs=# select \* from bus;

bno | capacity | depot\_name | rno

-----+---------+-----------+----

101 | 50 | swargate | 1

102 | 60 | pune st | 2

103 | 50 | swargate | 1

104 | 60 | pune st | 2

(5 rows)

sybcs=# create table driver

sybcs-# (dno integer primary key,

sybcs(# dname varchar(20),

sybcs(# license\_no integer unique,

sybcs(# address varchar(20),

sybcs(# d\_age integer,

sybcs(# salary float);

NOTICE: CREATE TABLE / PRIMARY KEY will create implicit index "driver\_pkey" for table "driver"

NOTICE: CREATE TABLE / UNIQUE will create implicit index "driver\_license\_no\_key" for table "driver"

CREATE TABLE

sybcs=# insert into driver values (11,'ajay',2001,'pimpri',25,6000);

INSERT 0 1

sybcs=# select \* from driver;

dno | dname | license\_no | address | d\_age | salary

-----+------+-----------+----------+------+-------

11 | ajay | 2001 | pimpri | 25 | 6000

12 | amol | 2002 | chinchwad | 35 | 7000

13 | akash | 2003 | nigdi | 40 | 8000

(3 rows)

sybcs=# create table bus\_driver

sybcs-# (bno integer references bus(bno) on delete cascade,,

sybcs(# dno integer references driver(dno),

sybcs(# date\_of\_duty date,

sybcs(# shift integer check (shift in(1,2)));

CREATE TABLE

sybcs=# insert into bus\_driver values (101,12,'12/11/2013',1);

INSERT 0 1

sybcs=# select \* from bus\_driver;

bno | dno | date\_of\_duty | shift

-----+----+-------------+------

101 | 12 | 2013-12-11 | 1

102 | 13 | 2014-07-15 | 2

103 | 11 | 2013-08-18 | 1

(3 rows)

--------------------------------------------------------------

**Cursor**

**a)**

sybcs=# create or replace function driver\_details(text)

sybcs-# returns text as'

sybcs'# declare

sybcs'# dr\_name alias for $1;

sybcs'# r driver%rowtype;

sybcs'# c1 cursor for select \* from driver where dname=dr\_name;

sybcs'# begin

sybcs'# open c1;

sybcs'# loop

sybcs'# fetch c1 into r;

sybcs'# exit when not found;

sybcs'# raise notice '' % % % % % '',r.dno,r.license\_no,r.address,r.d\_age,r.salary;

sybcs'# end loop;

sybcs'# close c1;

sybcs'# return null;

sybcs'# end;'

sybcs-# language 'plpgsql';

CREATE FUNCTION

O/P

sybcs=# select driver\_details('ajay');

NOTICE: 11 2001 pimpri 25 6000

driver\_detai.ls

----------------

(1 row)

**b)**

sybcs=# create or replace function buses()

sybcs-# returns text as'

sybcs'# declare

sybcs'# r bus%rowtype;

sybcs'# r1 bus%rowtype;

sybcs'# c1 cursor for select \* from bus where rno=1;

sybcs'# c2 cursor for select \* from bus where rno=2;

sybcs'# begin

sybcs'# raise notice '' Buses of route no. 1'';

sybcs'# open c1;

sybcs'# loop

sybcs'# fetch c1 into r;

sybcs'# exit when not found;

sybcs'# raise notice ''% % %'',r.bno,r.capacity,r.depot\_name;

sybcs'# end loop;

sybcs'# close c1;

sybcs'#

sybcs'# raise notice '' Buses of route no. 2'';

sybcs'# open c2;

sybcs'# loop

sybcs'# fetch c2 into r1;

sybcs'# exit when not found;

sybcs'# raise notice ''% % %'',r1.bno,r1.capacity,r1.depot\_name;

sybcs'# end loop;

sybcs'# close c2;

sybcs'# return null;

sybcs'# end;'

sybcs-# language 'plpgsql';

CREATE FUNCTION

O/P

sybcs=# select buses();

NOTICE: buses of route no. 1

NOTICE: 101 50 swargate

NOTICE: 103 50 swargate

NOTICE: buses of route no. 2

NOTICE: 102 60 pune st

NOTICE: 104 60 pune st

buses

-------

(1 row)