**Correction Examen Base de Données Avancées**

conn system/...pw system....

drop user revsgbd cascade;

create user revsgbd identified by revsgbd;

grant dba to revsgbd;

conn revsgbd/revsgbd

create table clients

(

idcl number primary key,

nom varchar2(30),

prenom varchar2(30),

adresse varchar2(100),

ville varchar2(30)

);

insert into clients values (1,'A','PA','ADRA','VA');

insert into clients values (2,'B','PB','ADRB','VB');

insert into clients values (3,'C','PC','ADRC','VC');

insert into clients values (4,'D','PD','ADRD','VD');

insert into clients values (5,'E','PE','ADRE','VE');

insert into clients values (6,'F','PF','ADRF','VF');

insert into clients values (7,'G','PG','ADRG','VG');

insert into clients values (8,'H','PH','ADRH','VH');

insert into clients values (9,'I','PI','ADRI','VI');

insert into clients values (10,'J','PJ','ADRJ','VJ');

select \* from clients;

select count(\*) from clients; =>10

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create table lignes

(

idl number primary key,

numero number,

date\_acquisition date,

etat varchar2(30),

credit number(6,3),

idcl number references clients(idcl),

constraint ch\_lignes\_etat check (etat in ('activee', 'desactivee'))

);

insert into lignes values (101,98000001,'01/01/2020','activee',10.5,1);

insert into lignes values (102,98000002,'01/01/2020','desactivee',10.5,1);

insert into lignes values (103,98000003,'01/01/2020','activee',10.5,1);

insert into lignes values (104,98000004,'01/01/2020','activee',10.5,1);

insert into lignes values (105,98000011,'02/01/2020','activee',10.5,2);

insert into lignes values (106,98000012,'02/01/2020','desactivee',10.5,2);

insert into lignes values (107,98000013,'02/01/2020','desactivee',10.5,2);

insert into lignes values (108,98000014,'02/01/2020','activee',10.5,2);

insert into lignes values (109,98000111,'02/01/2020','activee',10.5,3);

insert into lignes values (110,98000112,'02/01/2020','desactivee',10.5,3);

insert into lignes values (111,98000113,'02/01/2020','desactivee',10.5,3);

insert into lignes values (112,98000114,'02/01/2020','activee',10.5,3);

insert into lignes values (113,98000311,'02/01/2020','activee',10.5,4);

insert into lignes values (114,98000312,'02/01/2020','desactivee',10.5,4);

insert into lignes values (115,98000313,'02/01/2020','desactivee',10.5,4);

insert into lignes values (116,98000314,'02/01/2020','activee',10.5,4);

insert into lignes values (117,98000411,'02/01/2020','activee',10.5,5);

insert into lignes values (118,98000412,'02/01/2020','activee',10.5,5);

insert into lignes values (119,98000413,'02/01/2020','activee',10.5,6);

insert into lignes values (120,98000414,'02/01/2020','activee',10.5,6);

insert into lignes values (121,98000511,'02/01/2020','activee',10.5,7);

insert into lignes values (122,98000512,'02/01/2020','activee',10.5,7);

insert into lignes values (123,98000513,'02/01/2020','activee',10.5,8);

insert into lignes values (124,98000514,'02/01/2020','activee',10.5,8);

insert into lignes values (125,98000611,'02/01/2020','activee',10.5,9);

insert into lignes values (126,98000612,'02/01/2020','activee',10.5,9);

insert into lignes values (127,98000613,'02/01/2020','activee',10.5,10);

insert into lignes values (128,98000614,'02/01/2020','activee',10.5,10);

SELECT \* FROM lignes;

SELECT count(\*) FROM lignes; =>28

============================================================================

create table CARTE\_RECHARGES

(

IDC number primary key,

MONTANT number(2)

);

insert into CARTE\_RECHARGES values (1,5);

insert into CARTE\_RECHARGES values (2,5);

insert into CARTE\_RECHARGES values (3,5);

insert into CARTE\_RECHARGES values (4,5);

insert into CARTE\_RECHARGES values (5,5);

insert into CARTE\_RECHARGES values (6,5);

insert into CARTE\_RECHARGES values (7,5);

insert into CARTE\_RECHARGES values (8,5);

insert into CARTE\_RECHARGES values (9,5);

insert into CARTE\_RECHARGES values (10,5);

insert into CARTE\_RECHARGES values (11,10);

insert into CARTE\_RECHARGES values (12,10);

insert into CARTE\_RECHARGES values (13,10);

insert into CARTE\_RECHARGES values (14,10);

insert into CARTE\_RECHARGES values (15,10);

insert into CARTE\_RECHARGES values (16,10);

insert into CARTE\_RECHARGES values (17,10);

insert into CARTE\_RECHARGES values (18,10);

insert into CARTE\_RECHARGES values (19,10);

insert into CARTE\_RECHARGES values (20,10);

insert into CARTE\_RECHARGES values (21,20);

insert into CARTE\_RECHARGES values (22,20);

insert into CARTE\_RECHARGES values (23,20);

insert into CARTE\_RECHARGES values (24,20);

insert into CARTE\_RECHARGES values (25,20);

insert into CARTE\_RECHARGES values (26,20);

insert into CARTE\_RECHARGES values (27,20);

insert into CARTE\_RECHARGES values (28,20);

insert into CARTE\_RECHARGES values (29,20);

insert into CARTE\_RECHARGES values (30,20);

insert into CARTE\_RECHARGES values (31,50);

insert into CARTE\_RECHARGES values (32,50);

insert into CARTE\_RECHARGES values (33,50);

insert into CARTE\_RECHARGES values (34,50);

insert into CARTE\_RECHARGES values (35,50);

insert into CARTE\_RECHARGES values (36,50);

insert into CARTE\_RECHARGES values (37,50);

insert into CARTE\_RECHARGES values (38,50);

insert into CARTE\_RECHARGES values (39,50);

insert into CARTE\_RECHARGES values (40,50);

SELECT \* from CARTE\_RECHARGES;

SELECT count(\*) from CARTE\_RECHARGES; =>40

==================================================================================

create table RECHARGES

(

IDL number references lignes(idl),

IDC number unique references CARTE\_RECHARGES(idc),

DATE\_RECHARGE date,

constraint pk\_RECHARGES primary key (IDL, IDC, DATE\_RECHARGE)

);

insert into recharges values (101,1,'20/01/2020');

insert into recharges values (101,2,'20/01/2020');

insert into recharges values (101,10,'20/02/2020');

insert into recharges values (101,11,'20/02/2020');

insert into recharges values (101,12,'20/03/2020');

insert into recharges values (101,13,'20/03/2020');

insert into recharges values (101,14,'20/04/2020');

insert into recharges values (101,15,'20/04/2020');

insert into recharges values (101,16,'20/05/2020');

insert into recharges values (101,17,'20/05/2020');

insert into recharges values (101,18,'20/06/2020');

insert into recharges values (101,19,'20/06/2020');

insert into recharges values (101,20,'20/07/2020');

insert into recharges values (101,21,'20/07/2020');

insert into recharges values (101,22,'20/08/2020');

insert into recharges values (101,23,'20/08/2020');

insert into recharges values (101,24,'20/09/2020');

insert into recharges values (101,25,'20/09/2020');

insert into recharges values (101,26,'20/10/2020');

insert into recharges values (101,27,'20/10/2020');

insert into recharges values (101,28,'20/11/2020');

insert into recharges values (101,29,'20/11/2020');

insert into recharges values (101,30,'20/12/2020');

insert into recharges values (101,31,'20/12/2020');

insert into recharges values (102,3,'20/01/2020');

insert into recharges values (102,4,'20/01/2020');

insert into recharges values (103,5,'20/01/2020');

insert into recharges values (103,6,'20/01/2020');

insert into recharges values (104,7,'20/01/2020');

insert into recharges values (104,32,'20/01/2020');

insert into recharges values (105,8,'20/01/2020');

insert into recharges values (106,33,'20/01/2020');

insert into recharges values (107,9,'20/01/2020');

insert into recharges values (108,34,'20/01/2020');

insert into recharges values (109,35,'20/01/2020');

insert into recharges values (110,36,'20/01/2020');

insert into recharges values (111,37,'20/01/2020');

insert into recharges values (112,38,'20/01/2020');

insert into recharges values (113,39,'20/01/2020');

insert into recharges values (114,40,'20/01/2020');

select \* from recharges;

select count(\*) from recharges; =>40

============================================================================1/

create index rech\_rapide on lignes(numero);

============================================================================2/

create or replace view V\_CL\_CR5 as

select distinct nom, prenom

from LIGNES l, RECHARGES r, CARTE\_RECHARGES cr, clients c

where l.idl = r.idl

and r.idc = cr.idc

and l.idcl = c.idcl

and l.IDCL not in (select distinct IDCL

from LIGNES l, RECHARGES r, CARTE\_RECHARGES cr

where l.idl = r.idl

and r.idc = cr.idc

and MONTANT in (10,20,50));

select \* from V\_CL\_CR5;

insert into CARTE\_RECHARGES values (41,5);

insert into recharges values (128,41,'20/01/2020');

select \* from V\_CL\_CR5;

============================================================================3/

create or replace function F\_RECHARGE( mnt number)

return number

is

res number;

ex\_mnt exception;

begin

if mnt not in (5,10,20,50) then raise ex\_mnt;

else

select count(\*) into res

from CARTE\_RECHARGES cr, recharges rc

where cr.idc = rc.idc

and montant = mnt;

return res;

end if;

exception

when ex\_mnt then return(-1);

end;

/

select F\_RECHARGE(5) from dual;

============================================================================4/

create or replace procedure P\_RECHARGES

is

cursor c is select distinct montant from carte\_recharges;

begin

for vc in c loop

dbms\_output.put\_line(

'La carte de recharge de code '||c%rowcount||' de montant '||vc.montant||

' a ete achetée '||F\_RECHARGE(vc.montant)||' fois');

end loop;

end;

/

execute P\_RECHARGES

============================================================================5/

create or replace procedure p\_hist\_active (id\_cl clients.idcl%type)

is

cursor cl is select idl, numero

from lignes where etat = 'activee'

and idcl = id\_cl;

cursor cr(x recharges.idl%type) is select date\_recharge, montant

from recharges r, carte\_recharges c

where r.idc = c.idc

and idl = X;

nbclient number;

nblig number;

begin

select count(\*) into nbclient from clients where idcl = id\_cl;

if nbclient = 0 then

dbms\_output.put\_line('Le client n''existe pas');

else

select count(\*) into nblig from lignes where etat = 'activee'

and idcl = id\_cl;

if nblig = 0 then

dbms\_output.put\_line('Le client n''a pas de lig activee');

else

for vcl in cl loop

dbms\_output.put\_line(vcl.numero);

for vcr in cr(vcl.idl) loop

dbms\_output.put\_line('Recharge effectuee le '||vcr.date\_recharge|| ' de '||vcr.montant

||' DTN');

end loop;

end loop;

end if;

end if;

end;

/

execute p\_hist\_active(1)

============================================================================6/

create or replace procedure P\_MAX\_LIG

is

cursor c is select idcl, numero, sum(montant) som\_mnt

from lignes l, CARTE\_RECHARGES c, RECHARGES r

where l.idl = r.idl

and r.idc = c.idc

group by l.idl,idcl,numero

having sum(montant) = (select max(sum(montant))

from RECHARGES r, CARTE\_RECHARGES c

where r.idc = c.idc

group by idl);

begin

for vc in c loop

dbms\_output.put\_line(vc.idcl||' '||vc.numero||' '||vc.som\_mnt);

end loop;

end;

/

execute P\_MAX\_LIG

============================================================================7/

create or replace procedure P\_MOY\_MOIS(pidl lignes.idl%type)

is

cursor c is select to\_char(DATE\_RECHARGE, 'MM') mois, avg(montant) moy\_rech

from CARTE\_RECHARGES cr, RECHARGES r

where cr.idc = r.idc

and to\_char(DATE\_RECHARGE, 'YYYY') = to\_char(sysdate, 'YYYY')-1

and idl = pidl

group by to\_char(DATE\_RECHARGE, 'MM')

order by 1;

begin

for vc in c loop

dbms\_output.put\_line(vc.mois ||' '|| vc.moy\_rech);

end loop;

end;

/

execute P\_MOY\_MOIS(101)

============================================================================8/

create or replace trigger t\_cont

before insert or update

on recharges

for each row

declare

da date;

et varchar2(30);

begin

select date\_acquisition, etat into da, et from lignes where idl = :new.idl;

if :new.date\_recharge < da then

raise\_application\_error (-20100,'La date de recharge doit être postérieure à la date d''acquisition');

end if;

if et != 'activée' then

raise\_application\_error (-20200,'La ligne n''est pas activée');

end if;

end;

/

insert into CARTE\_RECHARGES values (42,50);

insert into recharges values (102,42,'20/01/2021');

====> -20200,'La ligne n''est pas activée'

insert into recharges values (101,42,'20/01/2019');

====> -20100,'La date de recharge doit être postérieure à la date d''acquisition'