Série N 2 Module 21
Système de Gestion de Base de Donnée (II)

FILIERE : TDI
NIVEAU : 2éme année

Exercices 1:

- Soit les table suivantes(DB_Calcul):
  - Pair_impair (num, reponse): écrire un programme qui modifie réponse par pair ou impaire selon num
  - Premier (num, reponse): écrire un programme qui modifie reponse par premier ou non selon num
  - Calcul (Num1, Num2, Op, Resultat): écrire un programme qui calcul le Resultat selon Num1, Num2 et Op (+,-,*,/)

Solution :

```
Use Master
Go
Create database SerieM21N2Ex1
Go
use SerieM21N2Ex1
Go
-- 1)
Create Table Pair_impair (num int, reponse varchar(10))
Go
insert into Pair_impair(num) values(2)
insert into Pair_impair(num) values(3)
insert into Pair_impair(num) values(1)
insert into Pair_impair(num) values(7)
insert into Pair_impair(num) values(6)
Go

BEGIN
Declare @Num int
DECLARE PImp_cr CURSOR FOR SELECT Num  FROM Pair_impair

OPEN PImp_cr
FETCH NEXT FROM PImp_cr INTO @Num

While @@FETCH_STATUS=0
begin
      if (@Num%2=0)
            Update Pair_impair Set Reponse='Pair' where num=@Num
      else
            Update Pair_impair Set Reponse='Impair' where num=@Num
      FETCH NEXT FROM PImp_cr INTO @Num
End
CLOSE PImp_cr
DEALLOCATE PImp_cr

Select * From Pair_impair
END
Go

-- 2)
drop table Premier
Create Table Premier (num int, reponse varchar(15))
Go
insert into Premier(num) values(2)
insert into Premier(num) values(3)
```

```
insert into Premier(num) values(1)
insert into Premier(num) values(7)
insert into Premier(num) values(6)
insert into Premier(num) values(9)
insert into Premier(num) values(513)
insert into Premier(num) values(127)
Go

declare @num int,@i int
DECLARE premier_cursor CURSOR FOR select num from Premier
OPEN premier_cursor
FETCH NEXT FROM premier_cursor INTO @num

While @@FETCH_STATUS=0
begin
set @i=2
while(@num%@i<>0 and @i<@num)
begin
set @i=@i+1
end
if @i=@num or @num=1
      update premier set reponse='premier' where num=@num
else
      update premier set reponse='non-premier' where num=@num

FETCH NEXT FROM premier_cursor INTO @num
end
CLOSE premier_cursor
DEALLOCATE premier_cursor
select * from premier

-- 3)
Create Table Calcul (num1 int,num2 int,op varchar(5), resultat real)
Go
insert into Calcul(Num1,num2,op) values(2,4,'*')
insert into Calcul(Num1,num2,op) values(34,55,'+')
insert into Calcul(Num1,num2,op) values(24,4,'-')
insert into Calcul(Num1,num2,op) values(450,10,'/')
insert into Calcul(Num1,num2,op) values(456,7,'/')
Go

declare @num int,@num1 int,@num2 int,@op char(1),@res float
DECLARE calcul_cursor CURSOR FOR select Num1,Num2,Op from calcul
OPEN calcul_cursor
FETCH NEXT FROM calcul_cursor INTO @num1,@num2,@op
While @@FETCH_STATUS=0
begin
 if(@op='*')
      set @res=@num1*@num2
 if(@op='/')
      begin
            BEGIN TRY
                  set @res=Cast(@num1 as float)/@num2
            END TRY
            BEGIN CATCH
                  set @res=null
            END CATCH;
      end
if(@op='+')
      set @res=@num1+@num2
if(@op='-')
```

```
      set @res=@num1-@num2
update calcul set Resultat=@res where num1=@num1 and Num2=@num2 and Op=@op
FETCH NEXT FROM calcul_cursor INTO @num1,@num2,@op
end
CLOSE calcul_cursor
DEALLOCATE calcul_cursor

select * from calcul
```

Exercices 2:

- Soit le schéma relationnel (GestStg) suivant:
  - Stagiaire (**IdStg**, Nom, Moyenne)
  - Matiere(**IdMat**, Libelle, Coeff)
  - Note (IdStg, IdMat, Note)

1. Écrire un programme qui met à jour la moyenne de chaque stagiaire, sans affichage détailler (affichage à partir de la table stagiaire avec select)
2. Ecrire un programme qui permet l'affichage d'une table sous la forme suivante :

Stagiaire	Matière	Coeff	Moy. Matiere
Ali			
	SGBD1	2	12
	SGBD2	2	14
	ADO.Net	3	14
		Moyenne	13.43
	…	…	…
		Moyenne	…
…			

Solution :

```
-- 1)Programme de MAJ moyenne
begin
 declare @Moy float,@sommecoeff real,@numstg int,@mnote real,@coeff real

 DECLARE CrStg CURSOR FOR SELECT IdStg from Stagiaire

 OPEN CrStg
 FETCH NEXT FROM CrStg INTO @numstg
 While @@FETCH_STATUS=0
  begin
   set @sommecoeff=0
   set @Moy=0
   Declare CrMat Cursor for (Select coeff,AVG(Note) as MoyNote from
matiere,note where matiere.idmat=note.idmat and IdStg =@numstg Group by
matiere.idMat,Coeff)

   open CrMat
   fetch next from CrMat into @coeff,@mnote
   while @@FETCH_STATUS=0
    begin
     set @sommecoeff=@sommecoeff+@coeff
     set @Moy=(@mnote*@coeff)+@Moy
     fetch next from CrMat into @coeff,@mnote
    end
   Close CrMat
   deallocate CrMat
   if @sommecoeff=0
      update Stagiaire set Moyenne=0 where IdStg=@numstg
```

```
   else
      update Stagiaire set Moyenne=cast(@Moy/@sommecoeff as decimal(4,2))
where IdStg=@numstg
   FETCH NEXT FROM CrStg INTO @numstg
  End
 Close CrStg
 Deallocate CrStg
end

-- 2) Affichage tableau
Begin
 declare @Moy float,@sommecoeff real,@numstg int, @Nom varchar(50),@mnote
real,@coeff real, @Matiere varchar(50)
 Declare @TableMoy table (Nom varchar(50),Matiere Varchar(50), Coeff
varchar(15), MoyMatiere Varchar(15))

 DECLARE CrStg CURSOR FOR SELECT IdStg,Nom from Stagiaire

 OPEN CrStg
 FETCH NEXT FROM CrStg INTO @numstg,@Nom
 While @@FETCH_STATUS=0
  begin
   Insert into @TableMoy values (@Nom,'','','')
   set @sommecoeff=0
   set @Moy=0
   Declare CrMat Cursor for (Select Libelle,coeff,AVG(Note) as MoyNote from
matiere,note where matiere.idmat=note.idmat and IdStg =@numstg Group by
matiere.idMat,Libelle,Coeff)

   open CrMat
   fetch next from CrMat into @Matiere,@coeff,@mnote
   while @@FETCH_STATUS=0
    begin
     Insert into @TableMoy values ('',@Matiere,cast(@coeff as
varchar(5)),cast(@mnote as varchar(10)))
     set @sommecoeff=@sommecoeff+@coeff
     set @Moy=(@mnote*@coeff)+@Moy
     fetch next from CrMat into @Matiere,@coeff,@mnote
    end
   Close CrMat
   deallocate CrMat
   if(@sommecoeff=0)
      Insert into @TableMoy values ('','','Moyenne :','0')
   else
      Insert into @TableMoy values ('','','Moyenne
:',cast(cast(@Moy/@sommecoeff as decimal(4,2)) as varchar(10)))
   FETCH NEXT FROM CrStg INTO @numstg,@Nom
  End
 Close CrStg
 Deallocate CrStg
 Select * From @TableMoy
end
```