

```
CREATE DATABASE SOFTWARE
```

```
CREATE TABLE SW(  
REF INT PRIMARY KEY,  
DESIGNACAO NVARCHAR(20),  
TIPO NVARCHAR(10),  
FUNCAO NVARCHAR(10),  
DATA DATETIME  
)
```

```
CREATE TABLE PROGRAMADORES(  
NR INT PRIMARY KEY,  
NOME NVARCHAR(50),  
CATEGORIA NVARCHAR(10))
```

```
CREATE TABLE ALTERA(  
REF INT FOREIGN KEY REFERENCES SW(REF),  
DATA DATETIME,  
DESCRICAO NVARCHAR(20),  
RESPONSAVEL INT FOREIGN KEY REFERENCES PROGRAMADORES(NR),  
PRIMARY KEY(REF, DATA))
```

```
CREATE TABLE RECICLAGEM(  
REF INT PRIMARY KEY FOREIGN KEY REFERENCES SW(REF),  
NALTERACOES INT  
)
```

```
CREATE TABLE PARTEDE(  
TODO INT FOREIGN KEY REFERENCES SW(REF),  
PARTE INT FOREIGN KEY REFERENCES SW(REF),  
PRIMARY KEY(TODO,PARTE))
```

```
create procedure spa  
as  
insert into reciclagem (ref, nalteracoes)  
select ref, count(*)  
from altera  
group by ref  
having count(*)>20  
go
```

```
INSERT INTO SW (REF,DESIGNACAO) VALUES(1,'msoffice')
```

```
alter table partede add constraint c1 check(todo<>parte)
```

```
exec spa
```

```
create procedure componentes_directos  
@ref int, @ncomp int output  
as
```

```
select @ncomp=count(*) from partede  
where todo=@ref
```

```
declare @n int
execute componentes_directos 1, @n output
print 'numero de componentes= ' + convert(nvarchar(10),@n)
```

```
create procedure lista_alteracoes @p int
as
```

```
select * from altera where responsavel=@p
```

```
insert into programadores values(123,'Maria', 'catA')
```

```
execute lista_alteracoes 123
```

```
-----
CREATE PROCEDURE ACTUALIZA_RECICLAGEM @REF INT, @F INT
AS
UPDATE RECICLAGEM SET NALTERACOES=NALTERACOES+@F
WHERE REF=@REF
```

```
-----
DROP TRIGGER T1
```

```
-----
CREATE TRIGGER T1 ON ALTERA
FOR INSERT,UPDATE
AS
DECLARE @R INT
SELECT @R=REF FROM INSERTED
EXECUTE ACTUALIZA_RECICLAGEM @R,1
```

```
SELECT * FROM PROGRAMADORES
SELECT * FROM RECICLAGEM
```

```
INSERT INTO RECICLAGEM VALUES(1, 30)
```

```
INSERT INTO ALTERA VALUES(1,'2008-1-12','...', 123)
```