CREATE DATABASE Lab10;

/\*Bảng 2\*/  
CREATE TABLE PHONGBAN(

TENPHG VARCHAR(15),

MAPH INT,

TRPHG VARCHAR(20),

NG\_NHANCHUC VARCHAR(20)

);

INSERT INTO PHONGBAN VALUES

('Nghien cuu',5,'333445555','22/05/1978'),  
('Dieu hanh',4,'987987987','01/01/1985'),

('Quan ly',1,'888665555','22/05/1978');

/\*Bảng 6\*/

CREATE TABLE PHANCONG(

MA\_NHANVIEN VARCHAR(15),

SODA INT,

THOIGIAN FLOAT,

PRIMARY KEY (MA\_NHANVIEN,SODA)

);

INSERT INTO PHANCONG VALUES

('123456789',1,32.5),

('123456789',2,7.5),

('666884444',3,40.0),

('453453453',1,20.0),

('453453453',2,20.0),

('333445555',3,10.0),

('333445555',10,10.0),

('333445555',20,10.0),

('999887777',30,30.0),

('999887777',10,10.0),

('987987987',10,35.0),

('987987987',30,5.0),

('987654321',30,20.0),

('987654321',20,15.0),

('888665555',20,NULL);

/\*Bảng 3\*/

CREATE TABLE DIADIEM\_PHG(

MAPHG INT ,

DIADIEM VARCHAR(30)

)

/\*Bảng 5\*/

CREATE TABLE DEAN(

TENDA VARCHAR(30),

MADA INT PRIMARY KEY,

DDIEM\_DA VARCHAR(30),

PHONG INT

)

INSERT INTO DIADIEM\_PHG VALUES

( '1', 'TP HCM'),

('4','HA NOI'),

('5','VUNG TAU'),

('5','NHA TRANG'),

('5','TP HCM');

INSERT INTO DEAN VALUES

('San pham X','1','VUNG TAU','5'),

('San pham Y','2','NHA TRANG','5'),

('San pham Z','3','TP HCM','5'),

('Tin quoc hoa','10','HA NOI','4'),

('Cap quang','20','TP HCM ','1'),

('Dao tao','30','HA NOI','4');

CREATE TABLE NHANVIEN(

HONV VARCHAR(30) NOT NULL,

TENLOT VARCHAR(30) NOT NULL,

TEN VARCHAR(30) NOT NULL,

MANV VARCHAR(20) NOT NULL,

NGSINH DATE NOT NULL,

DCHI VARCHAR(100) NOT NULL,

PHAI VARCHAR(10) NOT NULL,

LUONG INT NOT NULL,

MA\_NQL VARCHAR(10) NOT NULL,

PHG INT NOT NULL

)

/\*Bảng 1\*/

INSERT INTO NHANVIEN(HONV,TENLOT,TEN,MANV,NGSINH,DCHI,PHAI,LUONG,MA\_NQL,PHG)

VALUES

('Dinh','Ba','Tien','123456789','1955-01-09','731 Tran Hung Dao, Q1, TPHCM','Nam',30000,'333445555',5),

('Nguyen','Thanh','Tung','333445555','1945-12-08','638 Nguyen Van Cu, Q5, TPHCM','Nam',40000,'888665555',5),

('Bui','Thuy','Vu','999887777','1958-07-19','332 Nguyen Thai Hoc, Q1, TPHCM','Nam',25000,'987654321',4),

('Le','Thi','Nhan','987654321','1931-06-20','291 Ho Van Hue, QPN, TPHCM','Nu',43000,'888665555',4),

('Nguyen','Manh','Hung','666884444','1952-09-15','975 Ba Ria, Vung Tau','Nam',38000,'333445555',5),

('Tran','Thanh','Tam','453453453','1962-07-31','543 Mai Thi Luu, Q1, TPHCM','Nam',25000,'333445555',5),

('Tran','Hong','Quan','987987987','1959-03-29','980Le Hong Phong, Q10, TPHCM','Nam',25000,'333445555',4),

('Vuong','Ngoc','Quyen','888665555','1927-10-10','450 Trung Vuong, HaNoi','Nu',55000,'',1);

/\*Bảng 4\*/

CREATE TABLE [dbo].[THANNHAN] (

[MA\_NVIEN] INT NOT NULL,

[TENTN] VARCHAR (30) NOT NULL,

[PHAI] VARCHAR (10) NULL,

[NGSINH] DATE NULL,

[QUANHE] VARCHAR (30) NULL,

CONSTRAINT [PK\_THANNHAN] PRIMARY KEY CLUSTERED (MA\_NVIEN,TENTN)

);

INSERT INTO THANNHAN (MA\_NVIEN,TENTN,PHAI,NGSINH,QUANHE)

VALUES

(333445555,'Quang','Nu','1976/04/05','Con gai'),

(333445555,'Khang','Nam','1973/10/25','Con trai'),

(333445555,'Duong','Nu','1948/05/03','Vo chong'),

(987654321,'Dang','Nam','1932/02/29','Vo chong'),

(123456789,'Duy','Nam','1978/01/01','Con trai'),

(123456789,'Chau','Nu','1978/12/31','Con gai');

/\*1.1 List all information of employees (code, name, entered date, supervisor’s id,

supervisor’s name) that were employed from s to f. S and f are date value that were

been input parameters.\*/

CREATE PROCEDURE SP\_11

AS

WITH tmp AS ( SELECT \* FROM NHANVIEN)

SELECT NHANVIEN.MANV, NHANVIEN.TEN, PHONGBAN.NG\_NHANCHUC AS ENTERED\_DATE, NHANVIEN.MA\_NQL, tmp.TEN AS TEN\_NQL

FROM NHANVIEN LEFT JOIN tmp ON NHANVIEN.MA\_NQL= tmp.MANV

LEFT JOIN PHONGBAN ON NHANVIEN.MANV=PHONGBAN.TRPHG;

GO

EXEC SP\_11;

/\*1.2 List all employees (code, name, salary) whose salary more than the average salary

of the department that they work in.\*/

CREATE PROCEDURE SP\_12

AS

WITH tb AS (SELECT AVG(LUONG) AS luongtb FROM NHANVIEN)

SELECT MANV,TEN,LUONG FROM NHANVIEN

WHERE LUONG >= ALL(SELECT \* FROM tb);

GO

EXEC SP\_12;

/\*1.3 List N employees that have the highest salary. N is the input parameter\*/

CREATE PROCEDURE SP\_13

AS

SELECT DISTINCT TOP 4 LUONG

FROM NHANVIEN

ORDER BY LUONG DESC;

GO

EXEC SP\_13;

/\*1.4 Increase 10% for salary of all employees in the city A. A is the input parameter.\*/

CREATE PROCEDURE SP\_14

AS

UPDATE NHANVIEN

SET LUONG = LUONG \* 1.1

WHERE DCHI LIKE '%TPHCM%';

GO

EXEC SP\_14;

/\*1.5 Delete all no personnel departments. \*/

CREATE PROCEDURE SP\_15

AS

DELETE FROM PHONGBAN

WHERE MAPH NOT IN (SELECT PHG FROM NHANVIEN);

GO

INSERT INTO PHONGBAN VALUES ('xoa',2,'232434','1213');

SELECT \* FROM PHONGBAN;

EXEC SP\_15;

SELECT \* FROM PHONGBAN;

/\*2.1 The average salary of each department must be fewer than 50000\*/

CREATE TRIGGER TG\_21

ON NHANVIEN

FOR INSERT,DELETE,UPDATE

AS

BEGIN

DECLARE @AVG1 FLOAT;

DECLARE @AVG2 FLOAT;

SELECT @AVG1 = AVG(LUONG) FROM inserted;

SELECT @AVG2 = AVG(LUONG) FROM deleted;

IF(@AVG1 >50000 OR @AVG2 > 50000 )

BEGIN

PRINT N'Luong TB > 50000.'

ROLLBACK

END

END;

INSERT INTO NHANVIEN VALUES ('Dinh','Ba','Thu2.1','1234567891','1955-01-09','731 Tran Hung Dao, Q1, TPHCM','Nam',100000,'333445555',5);

Graphical user interface, text, application

Description automatically generated

INSERT INTO NHANVIEN VALUES ('Dinh','Ba','Thu2.1','1234567891','1955-01-09','731 Tran Hung Dao, Q1, TPHCM','Nam',1000,'333445555',5);

A picture containing graphical user interface

Description automatically generated

/\*2.2 The salary of the head of each department must be greater than or equal to salary of

all employees in this department.\*/

CREATE TRIGGER TG\_22

ON NHANVIEN

FOR UPDATE, INSERT

AS

BEGIN

DECLARE @COUNT INT;

DECLARE @LUONG\_NV INT ;

DECLARE @LUONG\_NQL INT ;

SELECT @LUONG\_NV = LUONG FROM inserted ;

SELECT @LUONG\_NQL = LUONG FROM NHANVIEN

WHERE NHANVIEN.MA\_NQL IN(

SELECT MA\_NQL FROM inserted

);

SELECT @COUNT = COUNT(MANV) FROM NHANVIEN

WHERE MANV NOT IN(SELECT MA\_NQL FROM inserted)

AND LUONG >= @LUONG\_NQL;

IF (@COUNT != 0)

BEGIN

PRINT 'Luong nv qua cao'

ROLLBACK TRAN

END

END;

/\*2.3 The different between average salary of employees in HCM and HN must fewer than

10000. \*/

CREATE TRIGGER TG\_23

ON NHANVIEN

FOR INSERT, DELETE, UPDATE

AS

BEGIN

DECLARE @AVG11 FLOAT; DECLARE @AVG12 FLOAT;

DECLARE @AVG21 FLOAT;DECLARE @AVG22 FLOAT;

SELECT @AVG11 = AVG(LUONG) FROM inserted WHERE DCHI LIKE '%HaNoi%';

SELECT @AVG12 = AVG(LUONG) FROM inserted WHERE DCHI LIKE '%TPHCM%';

SELECT @AVG21 = AVG(LUONG) FROM deleted WHERE DCHI LIKE '%HaNoi%';

SELECT @AVG22 = AVG(LUONG) FROM deleted WHERE DCHI LIKE '%TPHCM%';

IF((@AVG11 - @AVG12) >10000 OR (@AVG11 - @AVG12) < -10000 OR (@AVG21 - @AVG22) >10000 OR (@AVG21 - @AVG22) < -10000 )

BEGIN

PRINT N'Luong TB nhan vien tai Ha Noi va TP HCM hon nhau 10000.'

ROLLBACK

END

END;

/\*2.5 The different between number of male and female employees must fewer than 10%.\*/

CREATE TRIGGER TG\_25

ON NHANVIEN

FOR INSERT, DELETE, UPDATE

AS

BEGIN

DECLARE @nam INT; DECLARE @nu INT; DECLARE @namx INT; DECLARE @nux INT;

DECLARE @tyle FLOAT;DECLARE @tylex FLOAT;

SELECT @tyle =0.1 \* COUNT(PHAI) FROM inserted ;

SELECT @nam = COUNT(PHAI) FROM inserted WHERE PHAI ='%Nam%';

SELECT @nu = COUNT(PHAI) FROM inserted WHERE PHAI ='%Nu%';

SELECT @tylex =0.1 \* COUNT(PHAI) FROM deleted ;

SELECT @namx = COUNT(PHAI) FROM deleted WHERE PHAI ='%Nam%';

SELECT @nux = COUNT(PHAI) FROM deleted WHERE PHAI ='%Nu%';

IF((@nam-@nu)>=@tyle OR (@nam-@nu)<=-@tyle OR (@namx-@nux)>=@tylex OR (@namx-@nux)<=-@tylex )

BEGIN

PRINT N'Cach biet nam nu qua lon.'

ROLLBACK

END

END;