Staff Management

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**Contents**

[Assignment Conditions 2](#_Toc111572999)

[Models 3](#_Toc111573000)

[ Logical 3](#_Toc111573001)

[ Relational 4](#_Toc111573002)

[Tables Creation 5](#_Toc111573003)

[Tables Relations 1](#_Toc111573004)

[Adding data to the Tables 1](#_Toc111573005)

[*Information for the employees* 1](#_Toc111573006)

[*Absence Types* 0](#_Toc111573007)

[*Number of absences/attendances* 0](#_Toc111573008)

[*Departments* 1](#_Toc111573009)

[*ID absences* 1](#_Toc111573010)

[*Number of Languages* 1](#_Toc111573011)

[*Languages* 0](#_Toc111573012)

[*Months* 1](#_Toc111573013)

[*Positions* 1](#_Toc111573014)

[*Calendar* 1](#_Toc111573015)

[Requests and their executions 1](#_Toc111573016)

[Procedures 5](#_Toc111573017)

[Triggers 10](#_Toc111573018)

[Cursors 13](#_Toc111573019)

# Assignment Conditions

To design and implement a database for PERSONNEL MANAGEMENT in a company to store the following information:

* Worker/employee - name, surname, position, department, salary, date of entry, languages ​​spoken
* Attendance, absence due to illness/vacation in several days for each month per employee

Rules:

* Each employee can be assigned to only one department
* All employees may have only one job title

The database must be normalized and allow:

1. Input, corrections, deletion of data.
2. Search for:

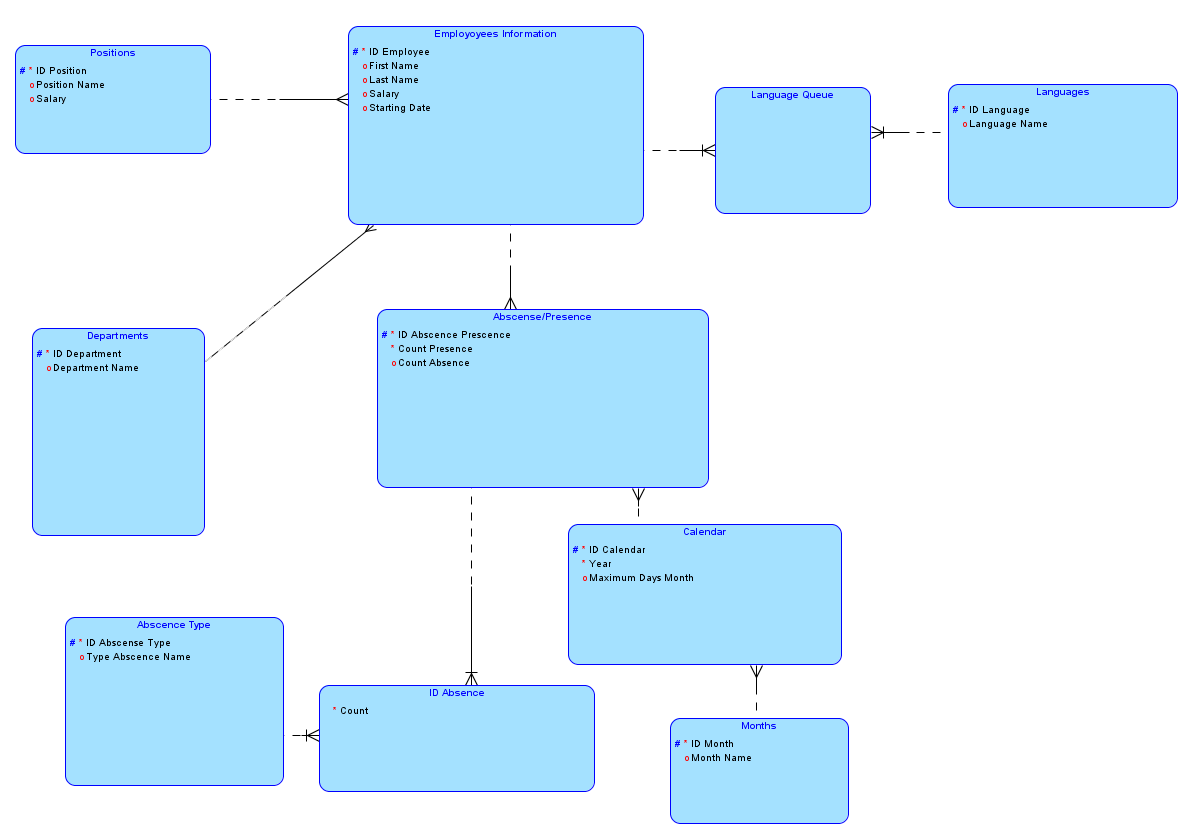
* employee by last name, position, department
* employees in languages ​​he speaks

1. References to:

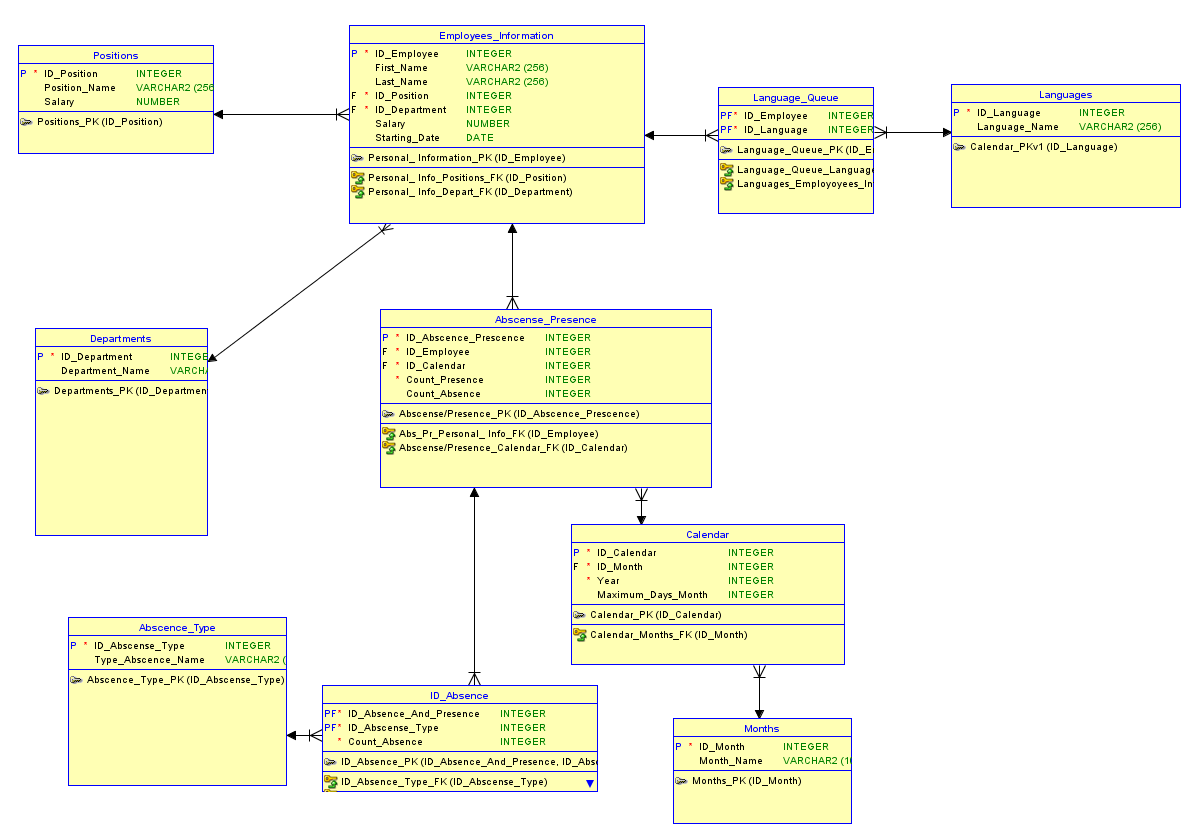
* The last 5 appointed employees, sorted by date of appointment
* Employees, for position/department
* Appointed employees for a period
* Number of absences for each employee per year

# Models

## Logical



## Relational



# Tables Creation

**CREATE TABLE abscence\_type (**

**id\_abscense\_type INTEGER NOT NULL,**

**type\_abscence\_name VARCHAR2(10)**

**);**

**ALTER TABLE abscence\_type ADD CONSTRAINT abscence\_type\_pk PRIMARY KEY ( id\_abscense\_type );**

**CREATE TABLE abscense\_presence (**

**id\_abscence\_prescence INTEGER NOT NULL,**

**id\_employee INTEGER NOT NULL,**

**id\_calendar INTEGER NOT NULL,**

**count\_presence INTEGER NOT NULL,**

**count\_absence INTEGER**

**);**

**ALTER TABLE abscense\_presence ADD CONSTRAINT "Abscense/Presence\_PK" PRIMARY KEY ( id\_abscence\_prescence );**

**CREATE TABLE calendar (**

**id\_calendar INTEGER NOT NULL,**

**id\_month INTEGER NOT NULL,**

**year INTEGER NOT NULL,**

**maximum\_days\_month INTEGER**

**);**

**ALTER TABLE calendar ADD CONSTRAINT calendar\_pk PRIMARY KEY ( id\_calendar );**

**CREATE TABLE departments (**

**id\_department INTEGER NOT NULL,**

**department\_name VARCHAR2(256)**

**);**

**ALTER TABLE departments ADD CONSTRAINT departments\_pk PRIMARY KEY ( id\_department );**

**CREATE TABLE employees\_information (**

**id\_employee INTEGER NOT NULL,**

**first\_name VARCHAR2(256),**

**last\_name VARCHAR2(256),**

**id\_position INTEGER NOT NULL,**

**id\_department INTEGER NOT NULL,**

**salary NUMBER,**

**starting\_date DATE**

**);**

**ALTER TABLE employees\_information ADD CONSTRAINT "Personal\_ Information\_PK" PRIMARY KEY ( id\_employee );**

**CREATE TABLE id\_absence (**

**id\_absence\_and\_presence INTEGER NOT NULL,**

**id\_abscense\_type INTEGER NOT NULL,**

**count\_absence INTEGER NOT NULL**

**);**

**ALTER TABLE id\_absence ADD CONSTRAINT id\_absence\_pk PRIMARY KEY ( id\_absence\_and\_presence,**

**id\_abscense\_type );**

**CREATE TABLE language\_queue (**

**id\_employee INTEGER NOT NULL,**

**id\_language INTEGER NOT NULL**

**);**

**ALTER TABLE language\_queue ADD CONSTRAINT language\_queue\_pk PRIMARY KEY ( id\_employee,**

**id\_language );**

**CREATE TABLE languages (**

**id\_language INTEGER NOT NULL,**

**language\_name VARCHAR2(256)**

**);**

**ALTER TABLE languages ADD CONSTRAINT calendar\_pkv1 PRIMARY KEY ( id\_language );**

**CREATE TABLE months (**

**id\_month INTEGER NOT NULL,**

**month\_name VARCHAR2(10));**

**ALTER TABLE months ADD CONSTRAINT months\_pk PRIMARY KEY ( id\_month );**

**CREATE TABLE positions (**

**id\_position INTEGER NOT NULL,**

**position\_name VARCHAR2(256),**

**salary NUMBER**

**);**

**ALTER TABLE positions ADD CONSTRAINT positions\_pk PRIMARY KEY ( id\_position );**

# Tables Relations

**ALTER TABLE abscense\_presence**

**ADD CONSTRAINT "Abs\_Pr\_Personal\_ Info\_FK" FOREIGN KEY ( id\_employee )**

**REFERENCES employees\_information ( id\_employee );**

**ALTER TABLE abscense\_presence**

**ADD CONSTRAINT "Abscense/Presence\_Calendar\_FK" FOREIGN KEY ( id\_calendar )**

**REFERENCES calendar ( id\_calendar );**

**ALTER TABLE calendar**

**ADD CONSTRAINT calendar\_months\_fk FOREIGN KEY ( id\_month )**

**REFERENCES months ( id\_month );**

**ALTER TABLE id\_absence**

**ADD CONSTRAINT id\_absence\_type\_fk FOREIGN KEY ( id\_abscense\_type )**

**REFERENCES abscence\_type ( id\_abscense\_type );**

**ALTER TABLE id\_absence**

**ADD CONSTRAINT "ID\_Absence/Prescense\_FK" FOREIGN KEY ( id\_absence\_and\_presence )**

**REFERENCES abscense\_presence ( id\_abscence\_prescence );**

**ALTER TABLE language\_queue**

**ADD CONSTRAINT language\_queue\_languages\_fk FOREIGN KEY ( id\_language )**

**REFERENCES languages ( id\_language );**

**ALTER TABLE language\_queue**

**ADD CONSTRAINT languages\_employoyees\_info\_fk FOREIGN KEY ( id\_employee )**

**REFERENCES employees\_information ( id\_employee );**

**ALTER TABLE employees\_information**

**ADD CONSTRAINT "Personal\_ Info\_Depart\_FK" FOREIGN KEY ( id\_department )**

**REFERENCES departments ( id\_department );**

**ALTER TABLE employees\_information**

**ADD CONSTRAINT "Personal\_ Info\_Positions\_FK" FOREIGN KEY ( id\_position )**

**REFERENCES positions ( id\_position );**

# Adding data to the Tables

## *Information for the employees*

Insert into EMPLOYEES\_INFORMATION (ID\_EMPLOYEE,FIRST\_NAME,LAST\_NAME,ID\_POSITION,ID\_DEPARTMENT,SALARY,STARTING\_DATE)

values (10,'Pesho','Ivanov',0,103,3127.71,to\_date('2013-03-27','RRRR-MM-DD'));

Insert into EMPLOYEES\_INFORMATION (ID\_EMPLOYEE,FIRST\_NAME,LAST\_NAME,ID\_POSITION,ID\_DEPARTMENT,SALARY,STARTING\_DATE)

values (11,'Ivan','Petkov',1,103,1992.09,to\_date('2013-06-05','RRRR-MM-DD'));

Insert into EMPLOYEES\_INFORMATION (ID\_EMPLOYEE,FIRST\_NAME,LAST\_NAME,ID\_POSITION,ID\_DEPARTMENT,SALARY,STARTING\_DATE)

values (12,'Cvetelina','Gerganova',2,100,1052.27,to\_date('2013-08-30','RRRR-MM-DD'));

Insert into EMPLOYEES\_INFORMATION (ID\_EMPLOYEE,FIRST\_NAME,LAST\_NAME,ID\_POSITION,ID\_DEPARTMENT,SALARY,STARTING\_DATE)

values (13,'Elena','Vladimirova',3,102,867.51,to\_date('2013-12-06','RRRR-MM-DD'));

Insert into EMPLOYEES\_INFORMATION (ID\_EMPLOYEE,FIRST\_NAME,LAST\_NAME,ID\_POSITION,ID\_DEPARTMENT,SALARY,STARTING\_DATE)

values (14,'Dimitar','Dimov',4,100,399.99,to\_date('2014-02-03','RRRR-MM-DD'));

Insert into EMPLOYEES\_INFORMATION (ID\_EMPLOYEE,FIRST\_NAME,LAST\_NAME,ID\_POSITION,ID\_DEPARTMENT,SALARY,STARTING\_DATE)

values (15,'Ivailo','Ivanov',5,104,58.01,to\_date('2014-09-01','RRRR-MM-DD'));

## *Absence Types*

Insert into ABSCENCE\_TYPE (ID\_ABSCENSE\_TYPE,TYPE\_ABSCENCE\_NAME)

values (200,'Medical');

Insert into ABSCENCE\_TYPE (ID\_ABSCENSE\_TYPE,TYPE\_ABSCENCE\_NAME)

values (201,'Paid');

Insert into ABSCENCE\_TYPE (ID\_ABSCENSE\_TYPE,TYPE\_ABSCENCE\_NAME)

values (202,'Unpaid');

Insert into ABSCENCE\_TYPE (ID\_ABSCENSE\_TYPE,TYPE\_ABSCENCE\_NAME)

values (203,'Study');

Insert into ABSCENCE\_TYPE (ID\_ABSCENSE\_TYPE,TYPE\_ABSCENCE\_NAME)

values (204,'Other');

## *Number of absences/attendances*

*Insert into ABSCENSE\_PRESENCE (ID\_ABSCENCE\_PRESCENCE,ID\_EMPLOYEE,ID\_CALENDAR,COUNT\_PRESENCE,COUNT\_ABSENCE)*

*values (2000,10,32013,16,5);*

*Insert into ABSCENSE\_PRESENCE (ID\_ABSCENCE\_PRESCENCE,ID\_EMPLOYEE,ID\_CALENDAR,COUNT\_PRESENCE,COUNT\_ABSENCE)*

*values (2001,10,42013,21,1);*

*Insert into ABSCENSE\_PRESENCE (ID\_ABSCENCE\_PRESCENCE,ID\_EMPLOYEE,ID\_CALENDAR,COUNT\_PRESENCE,COUNT\_ABSENCE)*

*values (2002,10,82013,15,7);*

*Insert into ABSCENSE\_PRESENCE (ID\_ABSCENCE\_PRESCENCE,ID\_EMPLOYEE,ID\_CALENDAR,COUNT\_PRESENCE,COUNT\_ABSENCE)*

*values (2003,10,122013,19,2);*

*Insert into ABSCENSE\_PRESENCE (ID\_ABSCENCE\_PRESCENCE,ID\_EMPL*

*OYEE,ID\_CALENDAR,COUNT\_PRESENCE,COUNT\_ABSENCE)*

*values (2004,11,62013,10,10);*

*Insert into ABSCENSE\_PRESENCE (ID\_ABSCENCE\_PRESCENCE,ID\_EMPLOYEE,ID\_CALENDAR,COUNT\_PRESENCE,COUNT\_ABSENCE)*

*values (2005,11,112013,18,1);*

*Insert into ABSCENSE\_PRESENCE (ID\_ABSCENCE\_PRESCENCE,ID\_EMPLOYEE,ID\_CALENDAR,COUNT\_PRESENCE,COUNT\_ABSENCE)*

*values (2006,11,52014,17,4);*

*Insert into ABSCENSE\_PRESENCE (ID\_ABSCENCE\_PRESCENCE,ID\_EMPLOYEE,ID\_CALENDAR,COUNT\_PRESENCE,COUNT\_ABSENCE)*

*values (2007,12,102013,17,5);*

*Insert into ABSCENSE\_PRESENCE (ID\_ABSCENCE\_PRESCENCE,ID\_EMPLOYEE,ID\_CALENDAR,COUNT\_PRESENCE,COUNT\_ABSENCE)*

*values (2008,12,112013,17,2);*

*Insert into ABSCENSE\_PRESENCE (ID\_ABSCENCE\_PRESCENCE,ID\_EMPLOYEE,ID\_CALENDAR,COUNT\_PRESENCE,COUNT\_ABSENCE)*

*values (2009,12,32014,18,3);*

*Insert into ABSCENSE\_PRESENCE (ID\_ABSCENCE\_PRESCENCE,ID\_EMPLOYEE,ID\_CALENDAR,COUNT\_PRESENCE,COUNT\_ABSENCE)*

*values (2010,13,122013,7,14);*

*Insert into ABSCENSE\_PRESENCE (ID\_ABSCENCE\_PRESCENCE,ID\_EMPLOYEE,ID\_CALENDAR,COUNT\_PRESENCE,COUNT\_ABSENCE)*

*values (2011,13,42014,9,13);*

*Insert into ABSCENSE\_PRESENCE (ID\_ABSCENCE\_PRESCENCE,ID\_EMPLOYEE,ID\_CALENDAR,COUNT\_PRESENCE,COUNT\_ABSENCE)*

*values (2012,14,62014,15,6);*

*Insert into ABSCENSE\_PRESENCE (ID\_ABSCENCE\_PRESCENCE,ID\_EMPLOYEE,ID\_CALENDAR,COUNT\_PRESENCE,COUNT\_ABSENCE)*

*values (2013,14,82014,19,2);*

*Insert into ABSCENSE\_PRESENCE (ID\_ABSCENCE\_PRESCENCE,ID\_EMPLOYEE,ID\_CALENDAR,COUNT\_PRESENCE,COUNT\_ABSENCE)*

*values (2014,14,122014,4,18);*

*Insert into ABSCENSE\_PRESENCE (ID\_ABSCENCE\_PRESCENCE,ID\_EMPLOYEE,ID\_CALENDAR,COUNT\_PRESENCE,COUNT\_ABSENCE)*

*values (2015,15,102014,18,4);*

*Insert into ABSCENSE\_PRESENCE (ID\_ABSCENCE\_PRESCENCE,ID\_EMPLOYEE,ID\_CALENDAR,COUNT\_PRESENCE,COUNT\_ABSENCE)*

*values (2016,15,112014,14,4);*

*Insert into ABSCENSE\_PRESENCE (ID\_ABSCENCE\_PRESCENCE,ID\_EMPLOYEE,ID\_CALENDAR,COUNT\_PRESENCE,COUNT\_ABSENCE)*

*values (2017,15,122014,18,4);*

*Insert into ABSCENSE\_PRESENCE (ID\_ABSCENCE\_PRESCENCE,ID\_EMPLOYEE,ID\_CALENDAR,COUNT\_PRESENCE,COUNT\_ABSENCE)*

*values (2018,15,12017,15,5);*

## *Departments*

*Insert into DEPARTMENTS (ID\_DEPARTMENT,DEPARTMENT\_NAME)*

*values (100,'Personal Management');*

*Insert into DEPARTMENTS (ID\_DEPARTMENT,DEPARTMENT\_NAME)*

*values (101,'People Solutions');*

*Insert into DEPARTMENTS (ID\_DEPARTMENT,DEPARTMENT\_NAME)*

*values (102,'Production (CS)');*

*Insert into DEPARTMENTS (ID\_DEPARTMENT,DEPARTMENT\_NAME)*

*values (103,'Operations');*

*Insert into DEPARTMENTS (ID\_DEPARTMENT,DEPARTMENT\_NAME)*

*values (104,'Hygienists');*

*Insert into DEPARTMENTS (ID\_DEPARTMENT,DEPARTMENT\_NAME)*

*values (105,null);*

*Insert into DEPARTMENTS (ID\_DEPARTMENT,DEPARTMENT\_NAME)*

*values (106,null);*

## *ID absences*

*Insert into ID\_ABSENCE (ID\_ABSENCE\_AND\_PRESENCE,ID\_ABSCENSE\_TYPE,COUNT\_ABSENCE)*

*values (2000,202,3);*

*Insert into ID\_ABSENCE (ID\_ABSENCE\_AND\_PRESENCE,ID\_ABSCENSE\_TYPE,COUNT\_ABSENCE)*

*values (2000,201,2);*

*Insert into ID\_ABSENCE (ID\_ABSENCE\_AND\_PRESENCE,ID\_ABSCENSE\_TYPE,COUNT\_ABSENCE)*

*values (2001,200,1);*

*Insert into ID\_ABSENCE (ID\_ABSENCE\_AND\_PRESENCE,ID\_ABSCENSE\_TYPE,COUNT\_ABSENCE)*

*values (2002,200,7);*

*Insert into ID\_ABSENCE (ID\_ABSENCE\_AND\_PRESENCE,ID\_ABSCENSE\_TYPE,COUNT\_ABSENCE)*

*values (2003,201,2);*

*Insert into ID\_ABSENCE (ID\_ABSENCE\_AND\_PRESENCE,ID\_ABSCENSE\_TYPE,COUNT\_ABSENCE)*

*values (2004,200,5);*

*Insert into ID\_ABSENCE (ID\_ABSENCE\_AND\_PRESENCE,ID\_ABSCENSE\_TYPE,COUNT\_ABSENCE)*

*values (2004,201,5);*

*Insert into ID\_ABSENCE (ID\_ABSENCE\_AND\_PRESENCE,ID\_ABSCENSE\_TYPE,COUNT\_ABSENCE)*

*values (2005,202,1);*

*Insert into ID\_ABSENCE (ID\_ABSENCE\_AND\_PRESENCE,ID\_ABSCENSE\_TYPE,COUNT\_ABSENCE)*

*values (2006,201,4);*

*Insert into ID\_ABSENCE (ID\_ABSENCE\_AND\_PRESENCE,ID\_ABSCENSE\_TYPE,COUNT\_ABSENCE)*

*values (2007,202,5);*

*Insert into ID\_ABSENCE (ID\_ABSENCE\_AND\_PRESENCE,ID\_ABSCENSE\_TYPE,COUNT\_ABSENCE)*

*values (2008,200,2);*

*Insert into ID\_ABSENCE (ID\_ABSENCE\_AND\_PRESENCE,ID\_ABSCENSE\_TYPE,COUNT\_ABSENCE)*

*values (2009,201,3);*

*Insert into ID\_ABSENCE (ID\_ABSENCE\_AND\_PRESENCE,ID\_ABSCENSE\_TYPE,COUNT\_ABSENCE)*

*values (2010,200,5);*

*Insert into ID\_ABSENCE (ID\_ABSENCE\_AND\_PRESENCE,ID\_ABSCENSE\_TYPE,COUNT\_ABSENCE)*

*values (2010,201,7);*

*Insert into ID\_ABSENCE (ID\_ABSENCE\_AND\_PRESENCE,ID\_ABSCENSE\_TYPE,COUNT\_ABSENCE)*

*values (2010,202,2);*

*Insert into ID\_ABSENCE (ID\_ABSENCE\_AND\_PRESENCE,ID\_ABSCENSE\_TYPE,COUNT\_ABSENCE)*

*values (2011,201,9);*

*Insert into ID\_ABSENCE (ID\_ABSENCE\_AND\_PRESENCE,ID\_ABSCENSE\_TYPE,COUNT\_ABSENCE)*

*values (2011,202,4);*

*Insert into ID\_ABSENCE (ID\_ABSENCE\_AND\_PRESENCE,ID\_ABSCENSE\_TYPE,COUNT\_ABSENCE)*

*values (2012,200,6);*

*Insert into ID\_ABSENCE (ID\_ABSENCE\_AND\_PRESENCE,ID\_ABSCENSE\_TYPE,COUNT\_ABSENCE)*

*values (2013,202,2);*

*Insert into ID\_ABSENCE (ID\_ABSENCE\_AND\_PRESENCE,ID\_ABSCENSE\_TYPE,COUNT\_ABSENCE)*

*values (2014,200,8);*

*Insert into ID\_ABSENCE (ID\_ABSENCE\_AND\_PRESENCE,ID\_ABSCENSE\_TYPE,COUNT\_ABSENCE)*

*values (2014,201,7);*

*Insert into ID\_ABSENCE (ID\_ABSENCE\_AND\_PRESENCE,ID\_ABSCENSE\_TYPE,COUNT\_ABSENCE)*

*values (2014,202,1);*

*Insert into ID\_ABSENCE (ID\_ABSENCE\_AND\_PRESENCE,ID\_ABSCENSE\_TYPE,COUNT\_ABSENCE)*

*values (2015,201,4);*

*Insert into ID\_ABSENCE (ID\_ABSENCE\_AND\_PRESENCE,ID\_ABSCENSE\_TYPE,COUNT\_ABSENCE)*

*values (2016,201,4);*

*Insert into ID\_ABSENCE (ID\_ABSENCE\_AND\_PRESENCE,ID\_ABSCENSE\_TYPE,COUNT\_ABSENCE) values (2017,202,4);*

## *Number of Languages*

*Insert into LANGUAGE\_QUEUE (ID\_EMPLOYEE,ID\_LANGUAGE)*

*values (10,1000);*

*Insert into LANGUAGE\_QUEUE (ID\_EMPLOYEE,ID\_LANGUAGE)*

*values (10,1001);*

*Insert into LANGUAGE\_QUEUE (ID\_EMPLOYEE,ID\_LANGUAGE)*

*values (10,1002);*

*Insert into LANGUAGE\_QUEUE (ID\_EMPLOYEE,ID\_LANGUAGE)*

*values (11,1001);*

*Insert into LANGUAGE\_QUEUE (ID\_EMPLOYEE,ID\_LANGUAGE)*

*values (12,1000);*

*Insert into LANGUAGE\_QUEUE (ID\_EMPLOYEE,ID\_LANGUAGE)*

*values (12,1001);*

*Insert into LANGUAGE\_QUEUE (ID\_EMPLOYEE,ID\_LANGUAGE)*

*values (13,1000);*

*Insert into LANGUAGE\_QUEUE (ID\_EMPLOYEE,ID\_LANGUAGE)*

*values (13,1001);*

*Insert into LANGUAGE\_QUEUE (ID\_EMPLOYEE,ID\_LANGUAGE)*

*values (13,1002);*

*Insert into LANGUAGE\_QUEUE (ID\_EMPLOYEE,ID\_LANGUAGE)*

*values (14,1000);*

*Insert into LANGUAGE\_QUEUE (ID\_EMPLOYEE,ID\_LANGUAGE)*

*values (14,1001);*

*Insert into LANGUAGE\_QUEUE (ID\_EMPLOYEE,ID\_LANGUAGE)*

*values (14,1003);*

*Insert into LANGUAGE\_QUEUE (ID\_EMPLOYEE,ID\_LANGUAGE)*

*values (15,1000);*

*Insert into LANGUAGE\_QUEUE (ID\_EMPLOYEE,ID\_LANGUAGE)*

*values (15,1004);*

## *Languages*

Insert into LANGUAGES (ID\_LANGUAGE,LANGUAGE\_NAME)

values (1000,'Bulgarian');

Insert into LANGUAGES (ID\_LANGUAGE,LANGUAGE\_NAME)

values (1001,'English');

Insert into LANGUAGES (ID\_LANGUAGE,LANGUAGE\_NAME)

values (1002,'German');

Insert into LANGUAGES (ID\_LANGUAGE,LANGUAGE\_NAME)

values (1003,'French');

Insert into LANGUAGES (ID\_LANGUAGE,LANGUAGE\_NAME)

values (1004,'Turkish');

## *Months*

Insert into MONTHS (ID\_MONTH,MONTH\_NAME)

values (1,'January');

Insert into MONTHS (ID\_MONTH,MONTH\_NAME)

values (2,'February');

Insert into MONTHS (ID\_MONTH,MONTH\_NAME)

values (3,'March');

Insert into MONTHS (ID\_MONTH,MONTH\_NAME)

values (4,'April');

Insert into MONTHS (ID\_MONTH,MONTH\_NAME)

values (5,'May');

Insert into MONTHS (ID\_MONTH,MONTH\_NAME)

values (6,'June');

Insert into MONTHS (ID\_MONTH,MONTH\_NAME)

values (7,'July');

Insert into MONTHS (ID\_MONTH,MONTH\_NAME)

values (8,'August');

Insert into MONTHS (ID\_MONTH,MONTH\_NAME)

values (9,'September');

Insert into MONTHS (ID\_MONTH,MONTH\_NAME)

values (10,'October');

Insert into MONTHS (ID\_MONTH,MONTH\_NAME)

values (11,'November');

Insert into MONTHS (ID\_MONTH,MONTH\_NAME)

values (12,'December');

## *Positions*

Insert into POSITIONS (ID\_POSITION,POSITION\_NAME,SALARY)

values (0,'Owner',9545.38);

Insert into POSITIONS (ID\_POSITION,POSITION\_NAME,SALARY)

values (1,'CEO',7323.61);

Insert into POSITIONS (ID\_POSITION,POSITION\_NAME,SALARY)

values (2,'Accountant',2154.98);

Insert into POSITIONS (ID\_POSITION,POSITION\_NAME,SALARY)

values (3,'Agent',1628.23);

Insert into POSITIONS (ID\_POSITION,POSITION\_NAME,SALARY)

values (4,'IT Support',2567.92);

Insert into POSITIONS (ID\_POSITION,POSITION\_NAME,SALARY)

values (5,'Cleaner',998.45);

Insert into POSITIONS (ID\_POSITION,POSITION\_NAME,SALARY)

values (8,'Schedule Manager',952.16);

Insert into POSITIONS (ID\_POSITION,POSITION\_NAME,SALARY)

values (6,'Team Leader',1278.88);

Insert into POSITIONS (ID\_POSITION,POSITION\_NAME,SALARY)

values (7,'Secretary',501.93);

## *Calendar*

Insert into CALENDAR (ID\_CALENDAR,ID\_MONTH,YEAR,MAXIMUM\_DAYS\_MONTH)

values (12013,1,2013,21);

Insert into CALENDAR (ID\_CALENDAR,ID\_MONTH,YEAR,MAXIMUM\_DAYS\_MONTH)

values (22013,2,2013,19);

Insert into CALENDAR (ID\_CALENDAR,ID\_MONTH,YEAR,MAXIMUM\_DAYS\_MONTH)

values (32013,3,2013,21);

Insert into CALENDAR (ID\_CALENDAR,ID\_MONTH,YEAR,MAXIMUM\_DAYS\_MONTH)

values (42013,4,2013,22);

Insert into CALENDAR (ID\_CALENDAR,ID\_MONTH,YEAR,MAXIMUM\_DAYS\_MONTH)

values (52013,5,2013,22);

Insert into CALENDAR (ID\_CALENDAR,ID\_MONTH,YEAR,MAXIMUM\_DAYS\_MONTH)

values (62013,6,2013,20);

Insert into CALENDAR (ID\_CALENDAR,ID\_MONTH,YEAR,MAXIMUM\_DAYS\_MONTH)

values (72013,7,2013,22);

Insert into CALENDAR (ID\_CALENDAR,ID\_MONTH,YEAR,MAXIMUM\_DAYS\_MONTH)

values (82013,8,2013,22);

Insert into CALENDAR (ID\_CALENDAR,ID\_MONTH,YEAR,MAXIMUM\_DAYS\_MONTH)

values (92013,9,2013,20);

Insert into CALENDAR (ID\_CALENDAR,ID\_MONTH,YEAR,MAXIMUM\_DAYS\_MONTH)

values (102013,10,2013,22);

Insert into CALENDAR (ID\_CALENDAR,ID\_MONTH,YEAR,MAXIMUM\_DAYS\_MONTH)

values (112013,11,2013,19);

Insert into CALENDAR (ID\_CALENDAR,ID\_MONTH,YEAR,MAXIMUM\_DAYS\_MONTH)

values (122013,12,2013,21);

Insert into CALENDAR (ID\_CALENDAR,ID\_MONTH,YEAR,MAXIMUM\_DAYS\_MONTH)

values (12014,1,2014,21);

Insert into CALENDAR (ID\_CALENDAR,ID\_MONTH,YEAR,MAXIMUM\_DAYS\_MONTH)

values (22014,2,2014,19);

Insert into CALENDAR (ID\_CALENDAR,ID\_MONTH,YEAR,MAXIMUM\_DAYS\_MONTH)

values (32014,3,2014,21);

Insert into CALENDAR (ID\_CALENDAR,ID\_MONTH,YEAR,MAXIMUM\_DAYS\_MONTH)

values (42014,4,2014,22);

Insert into CALENDAR (ID\_CALENDAR,ID\_MONTH,YEAR,MAXIMUM\_DAYS\_MONTH)

values (52014,5,2014,21);

Insert into CALENDAR (ID\_CALENDAR,ID\_MONTH,YEAR,MAXIMUM\_DAYS\_MONTH)

values (62014,6,2014,21);

Insert into CALENDAR (ID\_CALENDAR,ID\_MONTH,YEAR,MAXIMUM\_DAYS\_MONTH)

values (72014,7,2014,22);

Insert into CALENDAR (ID\_CALENDAR,ID\_MONTH,YEAR,MAXIMUM\_DAYS\_MONTH)

values (82014,8,2014,21);

Insert into CALENDAR (ID\_CALENDAR,ID\_MONTH,YEAR,MAXIMUM\_DAYS\_MONTH)

values (92014,9,2014,21);

Insert into CALENDAR (ID\_CALENDAR,ID\_MONTH,YEAR,MAXIMUM\_DAYS\_MONTH)

values (102014,10,2014,22);

Insert into CALENDAR (ID\_CALENDAR,ID\_MONTH,YEAR,MAXIMUM\_DAYS\_MONTH)

values (112014,11,2014,18);

Insert into CALENDAR (ID\_CALENDAR,ID\_MONTH,YEAR,MAXIMUM\_DAYS\_MONTH)

values (122014,12,2014,22);

Insert into CALENDAR (ID\_CALENDAR,ID\_MONTH,YEAR,MAXIMUM\_DAYS\_MONTH)

values (12015,1,2015,20);

Insert into CALENDAR (ID\_CALENDAR,ID\_MONTH,YEAR,MAXIMUM\_DAYS\_MONTH)

values (22015,2,2015,19);

Insert into CALENDAR (ID\_CALENDAR,ID\_MONTH,YEAR,MAXIMUM\_DAYS\_MONTH)

values (32015,3,2015,22);

Insert into CALENDAR (ID\_CALENDAR,ID\_MONTH,YEAR,MAXIMUM\_DAYS\_MONTH)

values (42015,4,2015,22);

Insert into CALENDAR (ID\_CALENDAR,ID\_MONTH,YEAR,MAXIMUM\_DAYS\_MONTH)

values (52015,5,2015,20);

Insert into CALENDAR (ID\_CALENDAR,ID\_MONTH,YEAR,MAXIMUM\_DAYS\_MONTH)

values (62015,6,2015,22);

Insert into CALENDAR (ID\_CALENDAR,ID\_MONTH,YEAR,MAXIMUM\_DAYS\_MONTH)

values (72015,7,2015,22);

Insert into CALENDAR (ID\_CALENDAR,ID\_MONTH,YEAR,MAXIMUM\_DAYS\_MONTH)

values (82015,8,2015,21);

Insert into CALENDAR (ID\_CALENDAR,ID\_MONTH,YEAR,MAXIMUM\_DAYS\_MONTH)

values (92015,9,2015,21);

Insert into CALENDAR (ID\_CALENDAR,ID\_MONTH,YEAR,MAXIMUM\_DAYS\_MONTH)

values (102015,10,2015,21);

Insert into CALENDAR (ID\_CALENDAR,ID\_MONTH,YEAR,MAXIMUM\_DAYS\_MONTH)

values (112015,11,2015,19);

Insert into CALENDAR (ID\_CALENDAR,ID\_MONTH,YEAR,MAXIMUM\_DAYS\_MONTH)

values (122015,12,2015,22);

Insert into CALENDAR (ID\_CALENDAR,ID\_MONTH,YEAR,MAXIMUM\_DAYS\_MONTH)

values (12016,1,2016,19);

Insert into CALENDAR (ID\_CALENDAR,ID\_MONTH,YEAR,MAXIMUM\_DAYS\_MONTH)

values (22016,2,2016,20);

Insert into CALENDAR (ID\_CALENDAR,ID\_MONTH,YEAR,MAXIMUM\_DAYS\_MONTH)

values (32016,3,2016,23);

Insert into CALENDAR (ID\_CALENDAR,ID\_MONTH,YEAR,MAXIMUM\_DAYS\_MONTH)

values (42016,4,2016,21);

Insert into CALENDAR (ID\_CALENDAR,ID\_MONTH,YEAR,MAXIMUM\_DAYS\_MONTH)

values (52016,5,2016,21);

Insert into CALENDAR (ID\_CALENDAR,ID\_MONTH,YEAR,MAXIMUM\_DAYS\_MONTH)

values (62016,6,2016,22);

Insert into CALENDAR (ID\_CALENDAR,ID\_MONTH,YEAR,MAXIMUM\_DAYS\_MONTH)

values (72016,7,2016,20);

Insert into CALENDAR (ID\_CALENDAR,ID\_MONTH,YEAR,MAXIMUM\_DAYS\_MONTH)

values (82016,8,2016,23);

Insert into CALENDAR (ID\_CALENDAR,ID\_MONTH,YEAR,MAXIMUM\_DAYS\_MONTH)

values (92016,9,2016,21);

Insert into CALENDAR (ID\_CALENDAR,ID\_MONTH,YEAR,MAXIMUM\_DAYS\_MONTH)

values (102016,10,2016,20);

Insert into CALENDAR (ID\_CALENDAR,ID\_MONTH,YEAR,MAXIMUM\_DAYS\_MONTH)

values (112016,11,2016,20);

Insert into CALENDAR (ID\_CALENDAR,ID\_MONTH,YEAR,MAXIMUM\_DAYS\_MONTH)

values (122016,12,2016,21);

Insert into CALENDAR (ID\_CALENDAR,ID\_MONTH,YEAR,MAXIMUM\_DAYS\_MONTH)

values (12017,1,2017,21);

Insert into CALENDAR (ID\_CALENDAR,ID\_MONTH,YEAR,MAXIMUM\_DAYS\_MONTH)

values (22017,2,2017,19);

# Requests and their executions

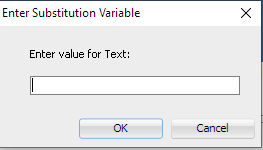
* 1. Request which checks the last 5 hired employees, ordered by hired date:

select \* from (  
select First\_Name, Last\_Name, Starting\_Date  
from Employees\_Information  
order by Starting\_Date desc)  
where rownum <=5;

  
Results from the execution:

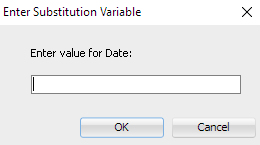
1. Employee reference for position/department:

select \* from (  
select First\_Name, Last\_Name, Department\_Name, Position\_Name  
from Employees\_Information ei  
join Departments d  
ON d.ID\_Department = ei.ID\_Department  
join Positions p  
ON p.ID\_Position = ei.ID\_Position  
where d.Department\_Name LIKE '%&Text%'  
and p.Position\_Name LIKE '%&Text%'  
ORDER by d.Department\_Name);

 Results from the execution:  
  
  
  
We write **Production (CS)**, and after that one more window pop-out in which we write **Agent,** and the result is:

1. Reference for appointed employees for a period:

select ei.First\_Name, ei.Last\_Name, ei.Starting\_Date  
from Employees\_Information ei  
where ei.Starting\_Date Like '%&Date%';

Резултат от изпълнението:

When you write down year **2013** the result is:



1. Report on the number of absences for each employee per year:

select ei.First\_Name, ei.Last\_Name, c.year, sum (a\_p.count\_absence) as CNT\_Abs  
from Abscense\_Presence a\_p  
join Employees\_Information ei  
on a\_p.ID\_Employee = ei.ID\_Employee  
join ID\_Absence a  
on a.count\_absence = a\_p.count\_absence  
join Calendar c  
on c.ID\_Calendar = a\_p.ID\_Calendargroup by ei.First\_Name, ei.Last\_Name, c.Year  
order by ei.First\_Name, ei.Last\_Name, c.Year desc;

Results from the execution:



# Procedures

create or replace procedure ABSCENCE\_TYPE\_Ins

(

v\_AbsType\_N ABSCENCE\_TYPE.TYPE\_ABSCENCE\_NAME%TYPE

)

AS

BEGIN

insert into ABSCENCE\_TYPE(TYPE\_ABSCENCE\_NAME)

VALUES (v\_AbsType\_N);

END;

create or replace procedure ABSCENSE\_PRESENCE\_Ins

(

v\_Pr\_Cn ABSCENSE\_PRESENCE.COUNT\_PRESENCE%TYPE,

v\_Abs\_Cn ABSCENSE\_PRESENCE.COUNT\_ABSENCE%TYPE

)

AS

BEGIN

insert into ABSCENSE\_PRESENCE(COUNT\_PRESENCE, COUNT\_ABSENCE)

VALUES (v\_Pr\_Cn, v\_Abs\_Cn);

END;

create or replace procedure CALENDAR\_Ins

(

v\_year CALENDAR.YEAR%TYPE,

v\_MaxDays CALENDAR.MAXIMUM\_DAYS\_MONTH%TYPE

)

AS

BEGIN

insert into CALENDAR(YEAR, MAXIMUM\_DAYS\_MONTH)

VALUES (v\_year, v\_MaxDays);

END;

create or replace procedure DEPARTMENTS\_INS

(

v\_Dep\_N DEPARTMENTS.DEPARTMENT\_NAME%TYPE

)

AS

BEGIN

insert into DEPARTMENTS(DEPARTMENT\_NAME)

VALUES (v\_Dep\_N);

END;

create or replace procedure EMPLOYEES\_INFORMATION\_INS

(

v\_Emp\_FN EMPLOYEES\_INFORMATION.FIRST\_NAME%TYPE,

v\_Emp\_LN EMPLOYEES\_INFORMATION.LAST\_NAME%TYPE,

v\_Sal EMPLOYEES\_INFORMATION.SALARY%TYPE,

v\_St\_Date EMPLOYEES\_INFORMATION.STARTING\_DATE%TYPE

)

AS

BEGIN

insert into EMPLOYEES\_INFORMATION(FIRST\_NAME, LAST\_NAME, SALARY, STARTING\_DATE)

VALUES (v\_Emp\_FN, v\_Emp\_LN, v\_Sal, v\_St\_Date);

END;

create or replace procedure ID\_ABSENCE\_INS

(

v\_Count\_Abs ID\_ABSENCE.COUNT\_ABSENCE%TYPE

)

AS

BEGIN

insert into ID\_ABSENCE(COUNT\_ABSENCE)

VALUES (v\_Count\_Abs);

END;

create or replace procedure LANGUAGES\_INS

(

v\_Lang\_N LANGUAGES.LANGUAGE\_NAME%TYPE

)

AS

BEGIN

insert into LANGUAGES(LANGUAGE\_NAME)

VALUES (v\_Lang\_N);

END;

create or replace procedure MONTHS\_INS

(

v\_Month\_N MONTHS.MONTH\_NAME%TYPE

)

AS

BEGIN

insert into MONTHS(MONTH\_NAME)

VALUES (v\_Month\_N);

END;

create or replace procedure Positions\_Ins

(

v\_Pos\_N positions.position\_name%TYPE,

v\_Pos\_S positions.salary%TYPE

)

AS

BEGIN

insert into positions(Position\_Name, Salary)

VALUES (v\_Pos\_N, v\_Pos\_S);

END;

create or replace procedure Positions\_UPD

(

v\_Pos\_ID positions.id\_position%TYPE,

v\_Pos\_N positions.position\_name%TYPE,

v\_Pos\_S positions.salary%TYPE

)

AS

BEGIN

UPDATE Positions set

Position\_Name = v\_Pos\_N,

Salary = v\_Pos\_S

WHERE ID\_Position = v\_Pos\_ID;

END;

# Triggers

create or replace trigger ID\_ABS\_PRES\_AUTO\_TRG

before insert on ABSCENSE\_PRESENCE

for each row

when (new.ID\_ABSCENCE\_PRESCENCE is null)

begin

:new.ID\_ABSCENCE\_PRESCENCE := SEQUENCE3.nextval;

end;

create or replace trigger ID\_ABS\_TYPE\_AUTO\_TRG

before insert on ABSCENCE\_TYPE

for each row

when (new.ID\_ABSCENSE\_TYPE is null)

begin

:new.ID\_ABSCENSE\_TYPE := SEQUENCE2.nextval;

end;

create or replace trigger ID\_CLD\_AUTO\_TRG

before insert on CALENDAR

for each row

when (new.ID\_CALENDAR is null)

begin

:new.ID\_CALENDAR := SEQUENCE4.nextval;

end;

create or replace trigger ID\_DPT\_AUTO\_TRG

before insert on DEPARTMENTS

for each row

when (new.ID\_DEPARTMENT is null)

begin

:new.ID\_DEPARTMENT := SEQUENCE5.nextval;

end;

create or replace trigger ID\_EI\_AUTO\_TRG

before insert on EMPLOYEES\_INFORMATION

for each row

when (new.ID\_EMPLOYEE is null)

begin

:new.ID\_EMPLOYEE := SEQUENCE6.nextval;

end;

create or replace trigger ID\_LANG\_AUTO\_TRG

before insert on LANGUAGES

for each row

when (new.ID\_LANGUAGE is null)

begin

:new.ID\_LANGUAGE := SEQUENCE8.nextval;

end;

create or replace trigger ID\_Pos\_AUTO\_TRG

before insert on Positions

for each row

when (new.ID\_Position is null)

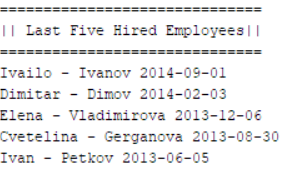
begin

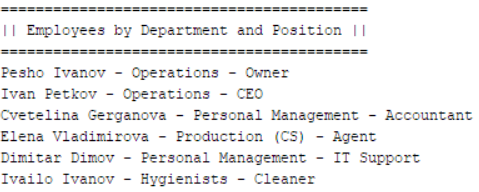
:new.ID\_Position := SEQUENCE1.nextval;

end;

# Cursors

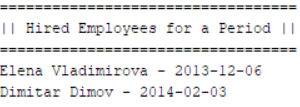
create or replace procedure LastFiveEmployees  
is  
begin  
DBMS\_OUTPUT.PUT\_LINE ('==============================');  
DBMS\_OUTPUT.PUT\_LINE ('|| Last Five Hired Employees||');  
DBMS\_OUTPUT.PUT\_LINE ('==============================');  
declare cursor C\_LastFive is  
select \* from (  
select First\_Name, Last\_Name, Starting\_Date  
from Employees\_Information  
order by Starting\_Date desc)  
where rownum <=5;  
begin  
for C\_Record in C\_LastFive  
loop  
DBMS\_OUTPUT.PUT\_LINE (C\_Record.First\_Name || ' - ' || C\_Record.Last\_Name || ' ' || C\_Record.Starting\_Date);  
end loop;  
end;  
end;



create or replace procedure EmpDepPos  
is  
begin  
DBMS\_OUTPUT.PUT\_LINE ('==========================================');  
DBMS\_OUTPUT.PUT\_LINE ('|| Employees by Department and Position ||');  
DBMS\_OUTPUT.PUT\_LINE ('==========================================');  
declare cursor C\_EmpDepPos is  
select \* from (  
select First\_Name, Last\_Name, Department\_Name, Position\_Name  
from Employees\_Information ei  
join Departments d  
ON d.ID\_Department = ei.ID\_Department  
join Positions p  
ON p.ID\_Position = ei.ID\_Position  
where d.Department\_Name LIKE '%&Text%'  
and p.Position\_Name LIKE '%&Text%'  
ORDER by d.Department\_Name);  
begin  
for C\_Record in C\_EmpDepPos  
loop  
DBMS\_OUTPUT.PUT\_LINE (C\_Record.First\_Name || ' ' || C\_Record.Last\_Name || ' - ' || C\_Record.Department\_Name || ' - ' || C\_Record.Position\_Name);  
end loop;  
end;  
end;

create or replace procedure HiredEmpForPeriod  
is  
begin  
DBMS\_OUTPUT.PUT\_LINE ('==================================');   
DBMS\_OUTPUT.PUT\_LINE ('|| Hired Employees for a Period ||');   
DBMS\_OUTPUT.PUT\_LINE ('==================================');   
declare cursor C\_HiredEmp is   
select ei.First\_Name, ei.Last\_Name, ei.Starting\_Date  
from Employees\_Information ei  
where ei.Starting\_Date Like '%&Date%';  
begin  
for C\_Record in C\_HiredEmp  
loop  
DBMS\_OUTPUT.PUT\_LINE (C\_Record.First\_Name || ' ' || C\_Record.Last\_Name || ' - ' || C\_Record.Starting\_Date);  
end loop;  
end;  
end;

begin  
HiredEmpForPeriod;  
end;



create or replace procedure AbsCountEmpYear  
is  
begin  
DBMS\_OUTPUT.PUT\_LINE ('=====================================');  
DBMS\_OUTPUT.PUT\_LINE ('|| Abscences for Employees by Year ||');  
DBMS\_OUTPUT.PUT\_LINE ('=====================================');  
declare cursor C\_AbsEmp is  
select ei.First\_Name, ei.Last\_Name, c.year, sum (a\_p.COUNT\_ABSENCE) CNT\_Abs  
from ABSCENSE\_PRESENCE a\_p  
join EMPLOYEES\_INFORMATION ei  
on a\_p.ID\_Employee = ei.ID\_Employee  
join ID\_Absence a  
on a.COUNT\_ABSENCE = a\_p.COUNT\_ABSENCE  
join Calendar c  
on c.ID\_Calendar = a\_p.ID\_Calendar  
group by ei.First\_Name, ei.Last\_Name, c.year  
order by ei.First\_Name, ei.Last\_Name, c.year desc;  
begin  
for C\_Record in C\_AbsEmp  
loop  
DBMS\_OUTPUT.PUT\_LINE (C\_Record.First\_Name || ' ' || C\_Record.Last\_Name || ' ' || C\_Record.Year || ' - ' || C\_Record.CNT\_Abs);  
end loop;  
end;  
end;