8η Εργαστηριακή Άσκηση

Σκοπός: Εξοικείωση με τις Αντικειμενοσχεσιακές Βάσεις Δεδομένων.

Μέθοδος / Εργαλεία:
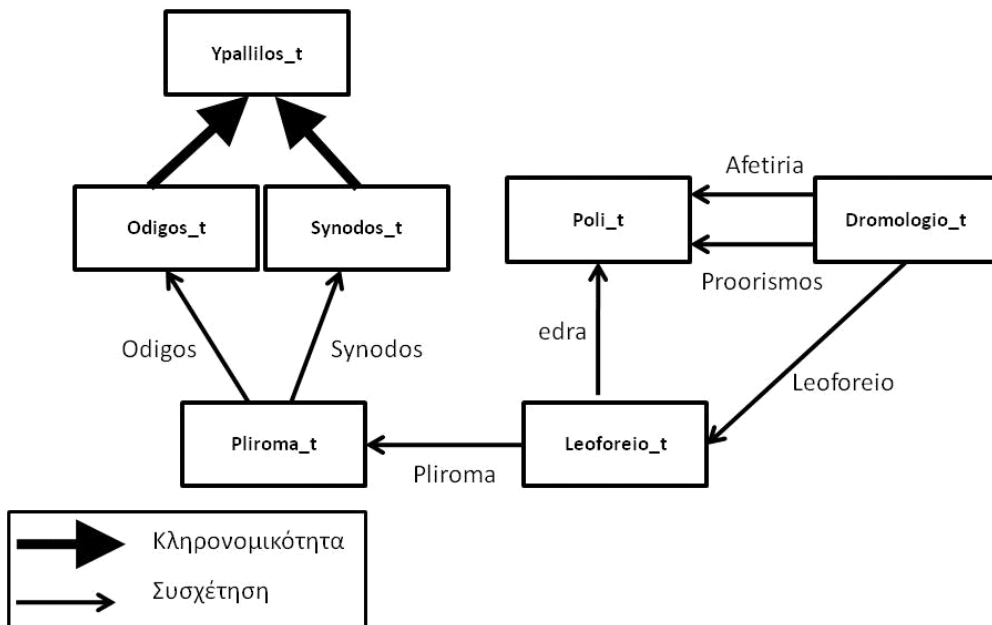α) Χρήση της Oracle και του SQL Developer

Οδηγίες:

Στην εικόνα 1 δίνεται διαγραμματικά το σχήμα ενός συστήματος μηχανογράφησης των ΚΤΕΛ. Σ' αυτήν την βάση υπάρχουν έξι τάξεις αντικειμένων, πιο αναλυτικά:

- Η Πόλη, όπου τα στοιχεία που κρατούνται είναι το όνομα της (varchar(20)) και η χώρα (varchar(20)) στην οποία ανήκει.
- Ο Υπάλληλος, όπου τα στοιχεία που κρατούνται είναι ο αριθμός ταυτότητας (varchar(10)), το όνομα (varchar(20)), το επώνυμο (varchar(30)), το φύλο (varchar(1)), η ηλικία του (integer), η διεύθυνση κατοικίας (varchar(40)) και η ημερομηνία πρόσληψης του (Date).
- Ο Οδηγός, ο οποίος είναι υποτάξη του Υπαλλήλου και έχει πρόσθετα και άλλα δύο πεδία τον τύπο του διπλώματος του (varchar(30)) και τον αριθμό δρομολογίων (integer) που έχει κάνει.
- Ο Συνοδός, ο οποίος είναι υποτάξη του Υπαλλήλου και έχει πρόσθετα και άλλο ένα πεδίο τον βαθμό του (varchar(20)) (π.χ. Ελεγκτής, Εισπράκτορας, …).
- Το πλήρωμα που έχει, το οποίο αποτελείται από ένα όνομα (varchar(20)) από έναν Οδηγό και ένα Συνοδό.
- Το Λεωφορείο, όπου τα στοιχεία που κρατούνται είναι ο αριθμός κυκλοφορίας του (varchar(8)), η έδρα του η οποία είναι τύπου Πόλη, η ημερομηνία κατασκευής (Date), το πλήρωμα που έχει, το οποίο είναι τύπου πλήρωμα και ο αριθμός των χιλιομέτρων (integer) που έχει διανύσει.
- Το Δρομολόγιο, όπου τα στοιχεία που κρατούνται είναι ο αριθμός δρομολογίου (integer), η αφετηρία και ο προορισμός τα οποία είναι τύπου Πόλης, η ημέρα (varchar(10)) και η ώρα (Time - δημιουργείστε δικό σας τύπο TIME με ιδιότητες HOUR και MINUTE) που έγινε ή θα γίνει το δρομολόγιο, το Λεωφορείο και η τιμή του εισιτηρίου (integer).

Να γίνουν τα παρακάτω:

- Να κατασκευαστούν οι κατάλληλοι τύποι και πίνακες για να υλοποιηθεί το σχήμα της εικόνας 1.

ΣΧΗΜΑ ΣΕΝΑΡΙΟΥ

Εικόνα 1

ΛΥΣΗ

```
CREATE OR REPLACE TYPE Poli_type AS OBJECT
    (Onoma varchar(20),
     Xora varchar(20));

create or replace TYPE Ypallilos_type AS OBJECT
     (Tautotita varchar(10),
      Onoma varchar(20),
      Eponumo varchar(30),
      Fulo varchar(1),
      Hlikia integer,
      Dieuthinsi varchar(40),
      Hmer_Proslipsis Date)
      NOT FINAL;

create or replace TYPE Odigos_type UNDER Ypallilos_type
     (Typos varchar(30),
     Arithmos integer);

create or replace TYPE Synodos_type UNDER Ypallilos_type
     (Vathmos VARCHAR(20));

create or replace TYPE Pliroma_type AS OBJECT
     (Onoma VARCHAR(20),
      Odigos REF Odigos_type,
      Synodos REF Synodos_type);

CREATE OR REPLACE TYPE Leoforeio_type  AS OBJECT
     (Arithmos VARCHAR(8),
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    edra REF Poli_type,
    Hmer_kataskeuhs Date,
    Pliroma REF Pliroma_type,
    Xiliometra integer);

create or replace TYPE TIME AS OBJECT
    (HOUR INTEGER,
     MINUTE INTEGER);

create or replace TYPE Dromologio_type AS OBJECT
    (Arithmos Integer,
     Afetiria REF Poli_type,
     Proorismos REF Poli_type,
     Hmera_dromologiou Varchar(10),
     Ora_dromologiou TIME,
     Leoforeio REF Leoforeio_type,
     Timi_Eisitiriou integer);

CREATE TABLE Poli_TABLE OF Poli_TYPE;
CREATE TABLE Ypallilos_TABLE OF Ypallilos_TYPE;
CREATE TABLE Pliroma_TABLE OF Pliroma_TYPE;
CREATE TABLE Leoforeio_TABLE OF Leoforeio_TYPE;
CREATE TABLE Dromologio_TABLE OF Dromologio_TYPE;

INSERT INTO Poli_table (Onoma, Xora) VALUES ('Thessaloniki', 'Ellada');
INSERT INTO Poli_table (Onoma, Xora) VALUES ('Athina', 'Ellada');
INSERT INTO Poli_table (Onoma, Xora) VALUES ('Florina', 'Ellada');
INSERT INTO Poli_table (Onoma, Xora) VALUES ('Larisa', 'Ellada');
INSERT INTO Poli_table (Onoma, Xora) VALUES ('Volos', 'Ellada');
INSERT INTO Poli_table (Onoma, Xora) VALUES ('Drama', 'Ellada');
INSERT INTO Poli_table (Onoma, Xora) VALUES ('Sofia', 'Boulgaria');

INSERT INTO Ypallilos_table VALUES ('AA111111', 'Giannis', 'Parios', 'M', 35, 'Tsimiski 1',
date'2004-1-16');
INSERT INTO Ypallilos_table VALUES ('BB222222', 'Giorgios', 'Karampelas', 'M', 40, 'Megalou
Alexandrou 105', date'2000-10-10');
INSERT INTO Ypallilos_table VALUES ('CC333333', 'Maria', 'Iouliou', 'F', 25, 'Egnatias 10',
date'2002-11-25');


INSERT INTO Ypallilos_table VALUES (Odigos_type('HH888888', 'Dimitris', 'Stamatiou', 'M',
40, 'Kilkis 20', date'1995-5-25', 'Epaggelmatiko', 1234567));
INSERT INTO Ypallilos_table VALUES (Odigos_type('II999999', 'Katerina', 'Stauridou', 'F', 20,
'Papafi 201', date'2001-1-14', 'Erasitexniko', 3489762));
INSERT INTO Ypallilos_table VALUES (Odigos_type('JJ101010', 'Anna', 'Papasotiriou', 'F', 32,
'Ermou 17', date'2003-11-1', 'Erasitexniko', 4443233));


INSERT INTO Ypallilos_table VALUES (Synodos_type('DD444444', 'Kostas', 'Papadopoulos',
'M', 55, 'Axaion 15', date'1975-3-25', 'A'));
INSERT INTO Ypallilos_table VALUES (Synodos_type('EE555555', 'Giorgios', 'Georgiadis', 'M',
53, 'Serron 34', date'1976-4-11', 'A'));
INSERT INTO Ypallilos_table VALUES (Synodos_type('FF666666', 'Sotiria', 'Bellou', 'F', 38,
'Gravias 5', date'1999-6-2', 'B'));
INSERT INTO Ypallilos_table VALUES (Synodos_type('GG777777', 'Sofia', 'Iatrou', 'F', 41,
'Peramou 8', date'1977-6-2', 'B'));
```

```sql
-- PLIROMA_TABLE
declare
   odigos_ref REF odigos_type;
   synodos_ref REF synodos_type;
begin
 SELECT TREAT(REF(O) AS REF ODIGOS_TYPE) INTO odigos_ref FROM Ypallilos_table O
WHERE O.Tautotita = 'HH888888';
 SELECT TREAT(REF(S) AS REF SYNODOS_TYPE) INTO synodos_ref FROM Ypallilos_table
S WHERE S.Tautotita = 'GG777777';
   INSERT INTO Pliroma_table values ('alpha', odigos_ref,synodos_ref);
end;

declare
   odigos_ref REF odigos_type;
   synodos_ref REF synodos_type;
begin
 SELECT TREAT(REF(O) AS REF ODIGOS_TYPE) INTO odigos_ref FROM Ypallilos_table O
WHERE O.Tautotita = 'II999999';
 SELECT TREAT(REF(S) AS REF SYNODOS_TYPE) INTO synodos_ref FROM Ypallilos_table
S WHERE S.Tautotita = 'DD444444';
   INSERT INTO Pliroma_table values ('beta', odigos_ref,synodos_ref);
end;

declare
   odigos_ref REF odigos_type;
   synodos_ref REF synodos_type;
begin
 SELECT TREAT(REF(O) AS REF ODIGOS_TYPE) INTO odigos_ref FROM Ypallilos_table O
WHERE O.Tautotita = 'HH888888';
 SELECT TREAT(REF(S) AS REF SYNODOS_TYPE) INTO synodos_ref FROM Ypallilos_table
S WHERE S.Tautotita = 'EE555555';
   INSERT INTO Pliroma_table values ('gamma', odigos_ref,synodos_ref);
end;

declare
   odigos_ref REF odigos_type;
   synodos_ref REF synodos_type;
begin
 SELECT TREAT(REF(O) AS REF ODIGOS_TYPE) INTO odigos_ref FROM Ypallilos_table O
WHERE O.Tautotita = 'JJ101010';
 SELECT TREAT(REF(S) AS REF SYNODOS_TYPE) INTO synodos_ref FROM Ypallilos_table
S WHERE S.Tautotita = 'FF666666';
   INSERT INTO Pliroma_table values ('delta', odigos_ref,synodos_ref);
end;

-- LEOFOREIO_TABLE
declare
   poli_ref REF poli_type;
   pliroma_ref REF pliroma_type;
begin
 SELECT REF(P) INTO poli_ref FROM Poli_table P WHERE P.Onoma = 'Thessaloniki';
 SELECT REF(P) INTO pliroma_ref FROM Pliroma_table P WHERE P.Onoma = 'alpha';
 INSERT  INTO  Leoforeio_table  (Arithmos,  edra,  Hmer_kataskeuhs,  Pliroma,  Xiliometra)
VALUES  ('NHE1010', Poli_ref, date'2007-5-1',Pliroma_ref, 10000);
end;
```

```
declare
   poli_ref REF poli_type;
   pliroma_ref REF pliroma_type;
begin
 SELECT REF(P) INTO poli_ref FROM Poli_table P WHERE P.Onoma = 'Thessaloniki';
 SELECT REF(P) INTO pliroma_ref FROM Pliroma_table P WHERE P.Onoma = 'beta';
 INSERT INTO Leoforeio_table (Arithmos, edra, Hmer_kataskeuhs, Pliroma, Xiliometra)
VALUES ('NEE9990', Poli_ref, date'2006-6-1', Pliroma_ref, 50000);
end;

declare
   poli_ref REF poli_type;
   pliroma_ref REF pliroma_type;
begin
 SELECT REF(P) INTO poli_ref FROM Poli_table P WHERE P.Onoma = 'Athina';
 SELECT REF(P) INTO pliroma_ref FROM Pliroma_table P WHERE P.Onoma = 'gamma';
 INSERT INTO Leoforeio_table (Arithmos, edra, Hmer_kataskeuhs, Pliroma, Xiliometra)
VALUES ('YOI7867', Poli_ref, date'2005-2-1', Pliroma_ref, 100000);
end;

declare
   poli_ref REF poli_type;
   pliroma_ref REF pliroma_type;
begin
 SELECT REF(P) INTO poli_ref FROM Poli_table P WHERE P.Onoma = 'Florina';
 SELECT REF(P) INTO pliroma_ref FROM Pliroma_table P WHERE P.Onoma = 'delta';
 INSERT INTO Leoforeio_table (Arithmos, edra, Hmer_kataskeuhs, Pliroma, Xiliometra)
VALUES
 ('PAY4532', Poli_ref, date'2004-9-1', Pliroma_ref, 150000);
end;

-- DROMOLOGIO_TABLE
declare
   afetiria_ref REF poli_type;
   proorismos_ref REF poli_type;
   leoforeio_ref  REF leoforeio_type;
begin
 SELECT REF(P) INTO afetiria_ref FROM Poli_table P WHERE P.Onoma = 'Thessaloniki';
 SELECT REF(P) INTO proorismos_ref FROM Poli_table P WHERE P.Onoma = 'Athina';
 SELECT REF(L) INTO leoforeio_ref FROM leoforeio_table L WHERE L.Arithmos =
'NHE1010';
 INSERT INTO Dromologio_table (Arithmos, Afetiria, Proorismos, Hmera_dromologiou,
Ora_dromologiou, Leoforeio, Timi_Eisitiriou) VALUES
 (10, afetiria_ref, proorismos_ref, 'Deutera', TIME(10,0), leoforeio_ref, 50);
end;

declare
   afetiria_ref REF poli_type;
   proorismos_ref REF poli_type;
   leoforeio_ref  REF leoforeio_type;
begin
 SELECT REF(P) INTO afetiria_ref FROM Poli_table P WHERE P.Onoma = 'Thessaloniki';
 SELECT REF(P) INTO proorismos_ref FROM Poli_table P WHERE P.Onoma = 'Athina';
 SELECT REF(L) INTO leoforeio_ref FROM leoforeio_table L WHERE L.Arithmos =
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```
'NHE1010';
 INSERT INTO Dromologio_table (Arithmos, Afetiria, Proorismos, Hmera_dromologiou,
Ora_dromologiou, Leoforeio, Timi_Eisitiriou) VALUES
 (20, afetiria_ref, proorismos_ref, 'Triti', TIME(10,0), leoforeio_ref, 50);
end;

declare
   afetiria_ref REF poli_type;
   proorismos_ref REF poli_type;
   leoforeio_ref  REF leoforeio_type;
begin
 SELECT REF(P) INTO afetiria_ref FROM Poli_table P WHERE P.Onoma = 'Thessaloniki';
 SELECT REF(P) INTO proorismos_ref FROM Poli_table P WHERE P.Onoma = 'Athina';
 SELECT REF(L) INTO leoforeio_ref FROM leoforeio_table L WHERE L.Arithmos =
'NHE1010';
 INSERT INTO Dromologio_table (Arithmos, Afetiria, Proorismos, Hmera_dromologiou,
Ora_dromologiou, Leoforeio, Timi_Eisitiriou) VALUES
 (30, afetiria_ref, proorismos_ref, 'Tetarti', TIME(10,0), leoforeio_ref, 50);
end;

declare
   afetiria_ref REF poli_type;
   proorismos_ref REF poli_type;
   leoforeio_ref  REF leoforeio_type;
begin
 SELECT REF(P) INTO afetiria_ref FROM Poli_table P WHERE P.Onoma = 'Thessaloniki';
 SELECT REF(P) INTO proorismos_ref FROM Poli_table P WHERE P.Onoma = 'Athina';
 SELECT REF(L) INTO leoforeio_ref FROM leoforeio_table L WHERE L.Arithmos =
'NHE1010';
 INSERT INTO Dromologio_table (Arithmos, Afetiria, Proorismos, Hmera_dromologiou,
Ora_dromologiou, Leoforeio, Timi_Eisitiriou) VALUES
 (40, afetiria_ref, proorismos_ref, 'Pempti', TIME(10,0), leoforeio_ref, 50);
end;

declare
   afetiria_ref REF poli_type;
   proorismos_ref REF poli_type;
   leoforeio_ref  REF leoforeio_type;
begin
 SELECT REF(P) INTO afetiria_ref FROM Poli_table P WHERE P.Onoma = 'Thessaloniki';
 SELECT REF(P) INTO proorismos_ref FROM Poli_table P WHERE P.Onoma = 'Athina';
 SELECT REF(L) INTO leoforeio_ref FROM leoforeio_table L WHERE L.Arithmos =
'NHE1010';
 INSERT INTO Dromologio_table (Arithmos, Afetiria, Proorismos, Hmera_dromologiou,
Ora_dromologiou, Leoforeio, Timi_Eisitiriou) VALUES
 (50, afetiria_ref, proorismos_ref, 'Paraskeui', TIME(10,0), leoforeio_ref, 50);
end;


declare
   afetiria_ref REF poli_type;
   proorismos_ref REF poli_type;
   leoforeio_ref  REF leoforeio_type;
begin
 SELECT REF(P) INTO afetiria_ref FROM Poli_table P WHERE P.Onoma = 'Thessaloniki';
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```sql
 SELECT REF(P) INTO proorismos_ref FROM Poli_table P WHERE P.Onoma = 'Athina';
 SELECT REF(L) INTO leoforeio_ref FROM leoforeio_table L WHERE L.Arithmos =
'NHE1010';
 INSERT INTO Dromologio_table (Arithmos, Afetiria, Proorismos, Hmera_dromologiou,
Ora_dromologiou, Leoforeio, Timi_Eisitiriou) VALUES
 (60, afetiria_ref, proorismos_ref, 'Sabbato', TIME(10,0), leoforeio_ref, 50);
end;

declare
  afetiria_ref REF poli_type;
  proorismos_ref REF poli_type;
  leoforeio_ref  REF leoforeio_type;
begin
 SELECT REF(P) INTO afetiria_ref FROM Poli_table P WHERE P.Onoma = 'Thessaloniki';
 SELECT REF(P) INTO proorismos_ref FROM Poli_table P WHERE P.Onoma = 'Athina';
 SELECT REF(L) INTO leoforeio_ref FROM leoforeio_table L WHERE L.Arithmos =
'NHE1010';
 INSERT INTO Dromologio_table (Arithmos, Afetiria, Proorismos, Hmera_dromologiou,
Ora_dromologiou, Leoforeio, Timi_Eisitiriou) VALUES
 (70, afetiria_ref, proorismos_ref, 'Kuriaki', TIME(10,0), leoforeio_ref, 50);
end;

-- epistrofi

declare
  afetiria_ref REF poli_type;
  proorismos_ref REF poli_type;
  leoforeio_ref  REF leoforeio_type;
begin
 SELECT REF(P) INTO afetiria_ref FROM Poli_table P WHERE P.Onoma = 'Athina';
 SELECT REF(P) INTO proorismos_ref FROM Poli_table P WHERE P.Onoma = 'Thessaloniki';
 SELECT REF(L) INTO leoforeio_ref FROM leoforeio_table L WHERE L.Arithmos =
'NHE1010';
 INSERT INTO Dromologio_table (Arithmos, Afetiria, Proorismos, Hmera_dromologiou,
Ora_dromologiou, Leoforeio, Timi_Eisitiriou) VALUES
 (80, afetiria_ref, proorismos_ref, 'Deutera', TIME(20,0), leoforeio_ref, 50);
end;

declare
  afetiria_ref REF poli_type;
  proorismos_ref REF poli_type;
  leoforeio_ref  REF leoforeio_type;
begin
  SELECT REF(P) INTO afetiria_ref FROM Poli_table P WHERE P.Onoma = 'Athina';
 SELECT REF(P) INTO proorismos_ref FROM Poli_table P WHERE P.Onoma = 'Thessaloniki';
 SELECT REF(L) INTO leoforeio_ref FROM leoforeio_table L WHERE L.Arithmos =
'NHE1010';
 INSERT INTO Dromologio_table (Arithmos, Afetiria, Proorismos, Hmera_dromologiou,
Ora_dromologiou, Leoforeio, Timi_Eisitiriou) VALUES
 (90, afetiria_ref, proorismos_ref, 'Triti', TIME(20,0), leoforeio_ref, 50);
end;

declare
  afetiria_ref REF poli_type;
  proorismos_ref REF poli_type;
```

```
   leoforeio_ref  REF leoforeio_type;
begin
   SELECT REF(P) INTO afetiria_ref FROM Poli_table P WHERE P.Onoma = 'Athina';
 SELECT REF(P) INTO proorismos_ref FROM Poli_table P WHERE P.Onoma = 'Thessaloniki';
 SELECT  REF(L)  INTO  leoforeio_ref  FROM  leoforeio_table  L  WHERE  L.Arithmos  =
'NHE1010';
 INSERT  INTO  Dromologio_table  (Arithmos,  Afetiria,  Proorismos,  Hmera_dromologiou,
Ora_dromologiou, Leoforeio, Timi_Eisitiriou) VALUES
 (100, afetiria_ref, proorismos_ref, 'Tetarti', TIME(20,0), leoforeio_ref, 50);
end;

declare
   afetiria_ref REF poli_type;
   proorismos_ref REF poli_type;
   leoforeio_ref  REF leoforeio_type;
begin
   SELECT REF(P) INTO afetiria_ref FROM Poli_table P WHERE P.Onoma = 'Athina';
 SELECT REF(P) INTO proorismos_ref FROM Poli_table P WHERE P.Onoma = 'Thessaloniki';
 SELECT  REF(L)  INTO  leoforeio_ref  FROM  leoforeio_table  L  WHERE  L.Arithmos  =
'NHE1010';
 INSERT  INTO  Dromologio_table  (Arithmos,  Afetiria,  Proorismos,  Hmera_dromologiou,
Ora_dromologiou, Leoforeio, Timi_Eisitiriou) VALUES
 (110, afetiria_ref, proorismos_ref, 'Pemti', TIME(20,0), leoforeio_ref, 50);
end;

declare
   afetiria_ref REF poli_type;
   proorismos_ref REF poli_type;
   leoforeio_ref  REF leoforeio_type;
begin
   SELECT REF(P) INTO afetiria_ref FROM Poli_table P WHERE P.Onoma = 'Athina';
 SELECT REF(P) INTO proorismos_ref FROM Poli_table P WHERE P.Onoma = 'Thessaloniki';
 SELECT  REF(L)  INTO  leoforeio_ref  FROM  leoforeio_table  L  WHERE  L.Arithmos  =
'NHE1010';
 INSERT  INTO  Dromologio_table  (Arithmos,  Afetiria,  Proorismos,  Hmera_dromologiou,
Ora_dromologiou, Leoforeio, Timi_Eisitiriou) VALUES
 (120, afetiria_ref, proorismos_ref, 'Paraskeui', TIME(20,0), leoforeio_ref, 50);
end;

declare
   afetiria_ref REF poli_type;
   proorismos_ref REF poli_type;
   leoforeio_ref  REF leoforeio_type;
begin
   SELECT REF(P) INTO afetiria_ref FROM Poli_table P WHERE P.Onoma = 'Athina';
 SELECT REF(P) INTO proorismos_ref FROM Poli_table P WHERE P.Onoma = 'Thessaloniki';
 SELECT  REF(L)  INTO  leoforeio_ref  FROM  leoforeio_table  L  WHERE  L.Arithmos  =
'NHE1010';
 INSERT  INTO  Dromologio_table  (Arithmos,  Afetiria,  Proorismos,  Hmera_dromologiou,
Ora_dromologiou, Leoforeio, Timi_Eisitiriou) VALUES
 (130, afetiria_ref, proorismos_ref, 'Sabbato', TIME(20,0), leoforeio_ref, 50);
end;
```

```
declare
   afetiria_ref REF poli_type;
   proorismos_ref REF poli_type;
   leoforeio_ref  REF leoforeio_type;
begin
  SELECT REF(P) INTO afetiria_ref FROM Poli_table P WHERE P.Onoma = 'Athina';
  SELECT REF(P) INTO proorismos_ref FROM Poli_table P WHERE P.Onoma = 'Thessaloniki';
  SELECT  REF(L)  INTO  leoforeio_ref  FROM  leoforeio_table  L  WHERE  L.Arithmos  =
'NHE1010';
  INSERT  INTO  Dromologio_table  (Arithmos,  Afetiria,  Proorismos,  Hmera_dromologiou,
Ora_dromologiou, Leoforeio, Timi_Eisitiriou) VALUES
  (140, afetiria_ref, proorismos_ref, 'Kuriaki', TIME(20,0), leoforeio_ref, 50);
end;

-- ALLA

declare
   afetiria_ref REF poli_type;
   proorismos_ref REF poli_type;
   leoforeio_ref  REF leoforeio_type;
begin
  SELECT REF(P) INTO afetiria_ref FROM Poli_table P WHERE P.Onoma = 'Florina';
  SELECT REF(P) INTO proorismos_ref FROM Poli_table P WHERE P.Onoma = 'Larisa';
  SELECT REF(L) INTO leoforeio_ref FROM leoforeio_table L WHERE L.Arithmos = 'NEE9990';
  INSERT  INTO  Dromologio_table  (Arithmos,  Afetiria,  Proorismos,  Hmera_dromologiou,
Ora_dromologiou, Leoforeio, Timi_Eisitiriou) VALUES
  (210, afetiria_ref, proorismos_ref, 'Kuriaki', TIME(15,0), leoforeio_ref, 30);
end;

declare
   afetiria_ref REF poli_type;
   proorismos_ref REF poli_type;
   leoforeio_ref  REF leoforeio_type;
begin
  SELECT REF(P) INTO afetiria_ref FROM Poli_table P WHERE P.Onoma = 'Larisa';
  SELECT REF(P) INTO proorismos_ref FROM Poli_table P WHERE P.Onoma = 'Florina';
  SELECT REF(L) INTO leoforeio_ref FROM leoforeio_table L WHERE L.Arithmos = 'NEE9990';
  INSERT  INTO  Dromologio_table  (Arithmos,  Afetiria,  Proorismos,  Hmera_dromologiou,
Ora_dromologiou, Leoforeio, Timi_Eisitiriou) VALUES
  (220, afetiria_ref, proorismos_ref, 'Deutera', TIME(8,0), leoforeio_ref, 30);
end;

declare
   afetiria_ref REF poli_type;
   proorismos_ref REF poli_type;
   leoforeio_ref  REF leoforeio_type;
begin
  SELECT REF(P) INTO afetiria_ref FROM Poli_table P WHERE P.Onoma = 'Thessaloniki';
  SELECT REF(P) INTO proorismos_ref FROM Poli_table P WHERE P.Onoma = 'Larisa';
  SELECT REF(L) INTO leoforeio_ref FROM leoforeio_table L WHERE L.Arithmos = 'YOI7867';
  INSERT  INTO  Dromologio_table  (Arithmos,  Afetiria,  Proorismos,  Hmera_dromologiou,
Ora_dromologiou, Leoforeio, Timi_Eisitiriou) VALUES
  (310, afetiria_ref, proorismos_ref, 'Triti', TIME(8,0), leoforeio_ref, 10);
end;

declare
```

```
    afetiria_ref REF poli_type;
    proorismos_ref REF poli_type;
    leoforeio_ref  REF leoforeio_type;
begin
  SELECT REF(P) INTO afetiria_ref FROM Poli_table P WHERE P.Onoma = 'Larisa';
  SELECT REF(P) INTO proorismos_ref FROM Poli_table P WHERE P.Onoma = 'Thessaloniki';
  SELECT REF(L) INTO leoforeio_ref  FROM leoforeio_table L WHERE L.Arithmos = 'YOI7867';
  INSERT INTO Dromologio_table (Arithmos, Afetiria, Proorismos, Hmera_dromologiou,
Ora_dromologiou, Leoforeio, Timi_Eisitiriou) VALUES
  (320, afetiria_ref, proorismos_ref, 'Triti', TIME(12,0), leoforeio_ref, 10);
end;

declare
    afetiria_ref REF poli_type;
    proorismos_ref REF poli_type;
    leoforeio_ref  REF leoforeio_type;
begin
  SELECT REF(P) INTO afetiria_ref FROM Poli_table P WHERE P.Onoma = 'Thessaloniki';
  SELECT REF(P) INTO proorismos_ref FROM Poli_table P WHERE P.Onoma = 'Larisa';
  SELECT REF(L) INTO leoforeio_ref  FROM leoforeio_table L WHERE L.Arithmos = 'YOI7867';
  INSERT INTO Dromologio_table (Arithmos, Afetiria, Proorismos, Hmera_dromologiou,
Ora_dromologiou, Leoforeio, Timi_Eisitiriou) VALUES
  (330, afetiria_ref, proorismos_ref, 'Tetarti', TIME(8,0), leoforeio_ref, 10);
end;

declare
    afetiria_ref REF poli_type;
    proorismos_ref REF poli_type;
    leoforeio_ref  REF leoforeio_type;
begin
  SELECT REF(P) INTO afetiria_ref FROM Poli_table P WHERE P.Onoma = 'Larisa';
  SELECT REF(P) INTO proorismos_ref FROM Poli_table P WHERE P.Onoma = 'Thessaloniki';
  SELECT REF(L) INTO leoforeio_ref  FROM leoforeio_table L WHERE L.Arithmos = 'YOI7867';
  INSERT INTO Dromologio_table (Arithmos, Afetiria, Proorismos, Hmera_dromologiou,
Ora_dromologiou, Leoforeio, Timi_Eisitiriou) VALUES
  (340, afetiria_ref, proorismos_ref, 'Tetarti', TIME(12,0), leoforeio_ref, 10);
end;

--
DROP TABLE Dromologio_TABLE;
DROP TABLE Leoforeio_TABLE;
DROP TABLE Pliroma_TABLE;
DROP TABLE Ypallilos_TABLE;
DROP TABLE Poli_TABLE;

DROP TYPE Dromologio_TYPE;
DROP TYPE Leoforeio_TYPE;
DROP TYPE Pliroma_TYPE;
DROP TYPE Odigos_TYPE;
DROP TYPE Synodos_TYPE;
DROP TYPE Ypallilos_TYPE;
DROP TYPE Poli_TYPE;
```