**Advanced Database System Design**

**CS632002- Spring 2013**

**Project Deliverable 3**

**Submitted by:**

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(1)

**a) Create a class person\_t that contains fields for**

**FirstName, MiddleInitial, LastName, BirthYear, and PersonID.**

create or replace type person\_t as object(

FirstName varchar2(30),

MiddleInitial varchar2(5),

LastName varchar2(30),

BirthYear number,

PersonID number

) not final

**b) Create a table PERSON\_OBJECTS which has one single column named**

**PERSON\_INFO and which contains objects of type person\_t.**

create table PERSON\_OBJECTS (

PERSON\_INFO person\_t

)

table PERSON\_OBJECTS created.

desc person\_objects

Name Null Type

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PERSON\_INFO PERSON\_T()

**c) Write an application program that will load your 20 people into this one column table.**

**Your program should get the data from the Table of Deliverable 1.**

**In other words: You are NOT inserting the data into the new table by hand.**

**You are doing it by program.**

create or replace

procedure insert\_PERSON\_OBJECTS AS

cursor c1 is select PersonId,FirstName,MiddleInitial,LastName,BirthDate from PERSON;

pi person.PersonId%type;

fn person.FirstName%type;

mi person.MiddleInitial%type;

ln person.LastName%type;

bd person.BirthDate%type;

begin

OPEN c1;

LOOP

fetch c1 INTO pi,fn,mi,ln,bd;

if c1%NOTFOUND then exit;

end if;

insert into PERSON\_OBJECTS values(person\_t(fn,mi,ln,extract(year from bd),pi));

END LOOP;

CLOSE c1;

END;

**d) Display all data in your table PERSON\_OBJECTS.**

**select \* from person\_objects;**

PERSON\_INFO

---------------------------------------------------------------------------------------------------------------------BHARATI.PERSON\_T('John','B','Smith',1985,1001)

BHARATI.PERSON\_T('Franklin','T','Wong',1981,1002)

BHARATI.PERSON\_T('Alicia','J','Zelaya',1967,1003)

BHARATI.PERSON\_T('Jennifer','S','Wallace',1950,1004)

BHARATI.PERSON\_T('Ramesh','K','Narayan',1986,1005)

BHARATI.PERSON\_T('Joyce','A','English',1982,1006)

BHARATI.PERSON\_T('Ahmed','V','Jabbar',1970,1007)

BHARATI.PERSON\_T('James','E','Borg',1965,1008)

BHARATI.PERSON\_T('Mike','B','Smith',1988,1009)

BHARATI.PERSON\_T('Alice','A','Brown',1977,1011)

BHARATI.PERSON\_T('Jen','D','Wilson',1955,1012)

BHARATI.PERSON\_T('Raj','P','Shah',1985,1013)

BHARATI.PERSON\_T('Joy','G','Clark',1949,1014)

BHARATI.PERSON\_T('Abner','B','Lee',1956,1015)

BHARATI.PERSON\_T('James','E','Borg',1969,1016)

BHARATI.PERSON\_T('David','A','Hall',1985,1017)

BHARATI.PERSON\_T('Keri','M','Ryan',1975,1018)

BHARATI.PERSON\_T('Michel','F','King',1967,1019)

BHARATI.PERSON\_T('Joe','N','Hill',1963,1020)

BHARATI.PERSON\_T('Frank','M','Scher',1971,1010)

20 rows selected

**(2)**

**a) Write a SELECT statement that will return all unique first names from**

**PERSON\_OBJECTS.**

select distinct p.PERSON\_INFO.FirstName from PERSON\_OBJECTS p;

PERSON\_INFO.FIRSTNAME

------------------------------

Joyce

Joy

Joe

John

Alice

Frank

Ramesh

Michel

Franklin

Jen

Raj

Keri

Abner

Alicia

Jennifer

David

Ahmed

James

Mike

19 rows selected

**b) Write a SELECT statement that will return complete information on all people born after 1950 from PERSON\_OBJECTS. But make it look nice. Separate the different partsof the data out into separate columns.**

select p.PERSON\_INFO.PersonId as PID,p.PERSON\_INFO.FirstName as FNAME,p.PERSON\_INFO.MiddleInitial as MNAME,p.PERSON\_INFO.LastName AS LNAME,

p.PERSON\_INFO.BirthYear as BIRTHYEAR from PERSON\_OBJECTS p where p.PERSON\_INFO.BirthYear > 1950

PID FNAME MNAME LNAME BIRTHYEAR

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1001 John B Smith 1985

1002 Franklin T Wong 1981

1003 Alicia J Zelaya 1967

1005 Ramesh K Narayan 1986

1006 Joyce A English 1982

1007 Ahmed V Jabbar 1970

1008 James E Borg 1965

1009 Mike B Smith 1988

1011 Alice A Brown 1977

1012 Jen D Wilson 1955

1013 Raj P Shah 1985

1015 Abner B Lee 1956

1016 James E Borg 1969

1017 David A Hall 1985

1018 Keri M Ryan 1975

1019 Michel F King 1967

1020 Joe N Hill 1963

1010 Frank M Scher 1971

18 rows selected

**(3)**

a) Create a class woman\_t. Make it a subclass of person\_t, with an additional field:

number\_of\_children.

b) Create a class man\_t. Make it a subclass of person\_t, with an additional field:

years\_of\_military\_service.

c) Create tables WOMEN and MEN for data of type woman\_t and men\_t respectively.

**2a)**

**create type women\_t under PERSON\_T(**

**number\_of\_children number**

**) not final;**

**2b)**

**create type men\_t under PERSON\_T(**

**years\_of\_military\_service number**

**) not final;**

**2c)**

**create table** **WOMEN ( Women\_Info WOMEN\_T);**

**2d)**

**create table** **WOMEN ( Men\_Info MEN\_T);**

**(4)**

Next you will create another table XMLPERSONS that contains the same information as

Question 1 in XML format. There should be one column called XMLINFO. Insert all

people from Question 1.

**create table XMLPERSONS(XMLINFO XMLType);**

INSERT INTO XMLPERSONS(XMLINFO) VALUES

(XMLType('<person>

<name><firstName>John</firstName>

<mid>B</mid>

<last>Smith</last>

</name>

<birthyear>1985</birthyear>

<id>1001</id>

</person>'));

INSERT INTO XMLPERSONS(XMLINFO) VALUES

(XMLType('<person>

<name><firstName>Franklin</firstName>

<mid>T</mid>

<last>Wong</last>

</name>

<birthyear>1981</birthyear>

<id>1002</id>

</person>'));

**select dbms\_lob.substr( p.XMLINFO.getClobVal(),3900) from XMLPERSONS p;**

DBMS\_LOB.SUBSTR(P.XMLINFO.GETCLOBVAL(),3900)

--------------------------------------------------------------------------------------------------------------------------

<person>

<name><firstName>John</firstName>

<mid>B</mid>

<last>Smith</last>

</name>

<birthyear>1985</birthyear>

<id>1001</id>

</person>

<person>

<name><firstName>Franklin</firstName>

<mid>T</mid>

<last>Wong</last>

</name>

<birthyear>1981</birthyear>

<id>1002</id>

</person>

**(5)**

a) Repeat queries 2)a), 2)b) and 2)c) using the table XMLPERSONS. Note again that a) b) are just SELECT statements, but c) is a program.

**a) SELECT extract(p.XMLINFO,'/person/name/firstName/text()').getStringVal() "Data Set"**

**FROM XMLPERSONS p;**

**Data Set**

**--------------------------------------------------------------------------------------------------------------------------**

**John**

**Franklin**

**SELECT extract(p.XMLINFO,'/person/name/firstName/text()').getStringVal() as "FNAME",**

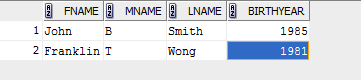
**extract(p.XMLINFO,'/person/name/mid/text()').getStringVal() as "MNAME",**

**extract(p.XMLINFO,'/person/name/last/text()').getStringVal() as "LNAME",**

**extract(p.XMLINFO,'/person/birthyear/text()').getnumberVal() as "BIRTHYEAR"**

**FROM XMLPERSONS p**

**where extract(p.XMLINFO,'/person/birthyear/text()').getnumberVal() > 1950;**

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