Name: Pushkaraj Yadav

Roll No.: BTB43

PRN: 2122000755

Subject: Advanced Database Systems Labs

Experiment No.: 2

1. Create a super type person

```
Person: attributes -->fname (first name), Iname (last name) dob (date of birth)

Methods -->FullName(to return full name), OnDate(return dob)
```

Create a sub type EmpObj which will inherit the person type attributes and methods.

Empobj (inherits Person): attributes --> job, sal, da(allowance), doj(date of joining)

Methods -- > Earn (return earning), OnDate(overriding return doj)

Answer below query.

1. Display employee Id, Employee Full Name, Employee Date of joining, Employee Date of Birth and Employee Earning for all employees.

CODE:

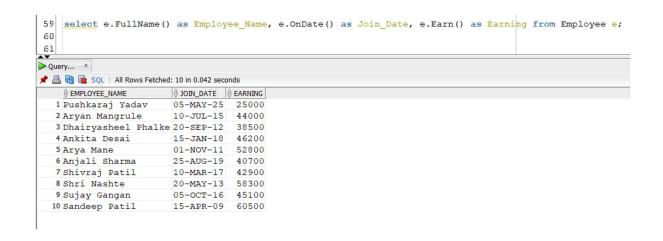
) not final

```
CREATE OR REPLACE TYPE PersonType AS OBJECT (
person_id varchar(10),
fname VARCHAR2(50),
Iname VARCHAR2(50),
dob DATE,
MEMBER FUNCTION FullName RETURN VARCHAR2,
MEMBER FUNCTION OnDate RETURN DATE
```

```
CREATE OR REPLACE TYPE BODY PersonType AS
  MEMBER FUNCTION FullName RETURN VARCHAR2 IS
  BEGIN
   RETURN fname || ' ' || Iname;
  END;
  MEMBER FUNCTION OnDate RETURN DATE IS
  BEGIN
   RETURN dob;
  END;
END;
create type EmpObjType under PersonType (
 job VARCHAR2(50),
  salary NUMBER,
  da NUMBER,
  doj date,
  OVERRIDING MEMBER FUNCTION OnDate RETURN DATE,
  MEMBER FUNCTION Earn RETURN NUMBER
)
CREATE OR REPLACE TYPE BODY EmpObjType AS
  OVERRIDING MEMBER FUNCTION OnDate RETURN DATE IS
  BEGIN
   RETURN doj;
  END;
```

```
MEMBER FUNCTION Earn RETURN NUMBER IS
  BEGIN
    RETURN salary + da;
  END;
END;
create table Employee of EmpObjType(
  CONSTRAINT emp_id PRIMARY KEY(person_id)
)
INSERT INTO employee VALUES('1', 'Pushkaraj', 'Yadav', DATE '2003-04-04',
'Developer', 20000, 5000, DATE '2025-05-05');
INSERT INTO Employee VALUES ('2', 'Aryan', 'Mangrule', DATE '1990-02-20',
'Engineer', 40000, 4000, DATE '2015-07-10');
INSERT INTO Employee VALUES ('3', 'Dhairyasheel', 'Phalke', DATE '1988-03-10',
'Analyst', 35000, 3500, DATE '2012-09-20');
INSERT INTO Employee VALUES ('4', 'Ankita', 'Desai', DATE '1992-04-05',
'Developer', 42000, 4200, DATE '2018-01-15');
INSERT INTO Employee VALUES ('5', 'Arya', 'Mane', DATE '1983-05-22', 'Consultant',
48000, 4800, DATE '2011-11-01');
INSERT INTO Employee VALUES ('6', 'Anjali', 'Sharma', DATE '1995-06-18', 'Tester',
37000, 3700, DATE '2019-08-25');
INSERT INTO Employee VALUES ('7', 'Shivraj', 'Patil', DATE '1993-07-11', 'HR
Specialist', 39000, 3900, DATE '2017-03-10');
INSERT INTO Employee VALUES ('8', 'Shri', 'Nashte', DATE '1986-08-30', 'Team Lead',
53000, 5300, DATE '2013-05-20');
INSERT INTO Employee VALUES ('9', 'Sujay', 'Gangan', DATE '1991-09-15', 'Support
Engineer', 41000, 4100, DATE '2016-10-05');
INSERT INTO Employee VALUES ('10', 'Sandeep', 'Patil', DATE '1987-10-25', 'Project
Manager', 55000, 5500, DATE '2009-04-15');
```

select e.FullName() as Employee_Name, e.OnDate() as Join_Date, e.Earn() as Earning from Employee e;



2. Implementing Table Inheritance in SQL Server

The following entities in a "School" database:

Super type: People

Sub types:

- Students
- Teachers
- Parents

Each of those entities has many of the same attributes, such as first name, last name, middle name, and birth date. Yet, we must separate them into multiple tables because we need to store and track different data for students, teachers and parents: students have grades and classes and parents; teachers have classes taught, skills, employment information, and so on.

```
CODE:
CREATE OR REPLACE TYPE People AS OBJECT (
  fname VARCHAR2(50),
  Iname VARCHAR2(50),
  mname VARCHAR2(50),
  birth_date DATE
)NOT FINAL;
CREATE OR REPLACE TYPE Student UNDER People (
  grade NUMBER,
  class VARCHAR2(50),
 parent_name VARCHAR2(100)
);
CREATE OR REPLACE TYPE Teacher UNDER People (
 classes_taught VARCHAR2(100),
 skills VARCHAR2(100),
 employment_info VARCHAR2(100)
);
CREATE OR REPLACE TYPE Parent UNDER People (
  children VARCHAR2(100)
);
CREATE TABLE students OF Student (
  PRIMARY KEY (fname, Iname)
```

);

```
CREATE TABLE teachers OF Teacher (
  PRIMARY KEY (fname, Iname)
);
CREATE TABLE parents OF Parent (
  PRIMARY KEY (fname, Iname)
);
INSERT INTO students VALUES ('Pushkaraj', 'Yadav', 'D', DATE '2003-07-10', 9, 'Class
A', 'Dilip Yadav');
INSERT INTO students VALUES ('Aryan', 'Mangrule', 'S', DATE '2003-05-22', 8, 'Class
B', 'Sachin Mangrule');
INSERT INTO students VALUES ('Aditya', 'Patil', 'S', DATE '2003-11-15', 10, 'Class C',
'Suresh Patil');
INSERT INTO students VALUES ('Ankita', 'Desai', 'B', DATE '2003-01-05', 7, 'Class D',
'Babaso Desai');
INSERT INTO students VALUES ('Ishaan', 'Deshmukh', 'R', DATE '2003-08-12', 11,
'Class E', 'Ramesh Deshmukh');
INSERT INTO students VALUES ('Avdhut', 'Pailwan', 'S', DATE '2003-02-18', 12, 'Class
F', 'Sanjay Pailwan');
INSERT INTO students VALUES ('Ritesh', 'Bakare', 'R', DATE '2003-09-25', 6, 'Class G',
'Ramesh Bakare');
INSERT INTO parents VALUES ('Dilip', 'Yadav', 'K', DATE '1975-04-10', 'Pushkaraj
Yadav');
INSERT INTO parents VALUES ('Sachin', 'Mangrule', 'M', DATE '1972-07-23', 'Aryan
Mangrule');
INSERT INTO parents VALUES ('Suresh', 'Patil', 'S', DATE '1979-05-15', 'Aditya Patil');
INSERT INTO parents VALUES ('Babaso', 'Desai', 'L', DATE '1980-09-17', 'Ankita
Desai');
```

INSERT INTO parents VALUES ('Ramesh', 'Deshmukh', 'N', DATE '1982-11-02', 'Ishaan Deshmukh');

INSERT INTO parents VALUES ('Sanjay', 'Pailwan', 'R', DATE '1976-03-22', 'Avdhut Pailwan');

INSERT INTO parents VALUES ('Ramesh', 'Bakare', 'P', DATE '1978-10-10', 'Ritesh Bakare');

INSERT INTO teachers VALUES ('Pooja', 'Reddy', 'T', DATE '1985-05-10', 'Math, Science', 'Math Expert', '10 Years');

INSERT INTO teachers VALUES ('Sonal', 'Mishra', 'A', DATE '1980-04-20', 'English, History', 'Literature Specialist', '12 Years');

INSERT INTO teachers VALUES ('Ankita', 'Bose', 'D', DATE '1983-08-30', 'Physics, Chemistry', 'Science Expert', '8 Years');

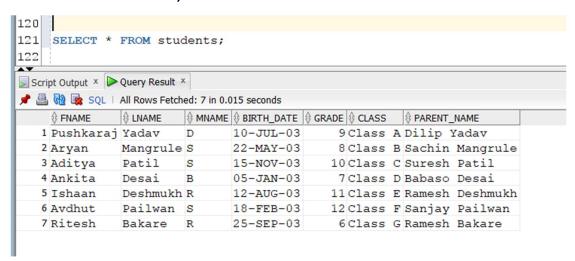
INSERT INTO teachers VALUES ('Meera', 'lyer', 'F', DATE '1981-12-11', 'Computer Science', 'Tech Expert', '6 Years');

INSERT INTO teachers VALUES ('Radhika', 'Desai', 'P', DATE '1978-03-09', 'Physical Education', 'Fitness Expert', '15 Years');

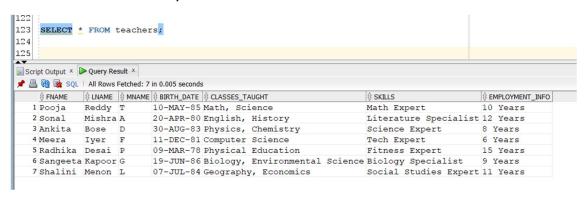
INSERT INTO teachers VALUES ('Sangeeta', 'Kapoor', 'G', DATE '1986-06-19', 'Biology, Environmental Science', 'Biology Specialist', '9 Years');

INSERT INTO teachers VALUES ('Shalini', 'Menon', 'L', DATE '1984-07-07', 'Geography, Economics', 'Social Studies Expert', '11 Years');

SELECT * FROM students;



SELECT * FROM teachers;



SELECT * FROM parents;

