Experiment no-2

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Roll no: 46

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1. Create a super type person

Person: attributes -->fname (first name), lname (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, EmployeeDate of Birth and Employee Earning for all employees.

CODE:

```
CREATE OR REPLACE TYPE PersonType AS OBJECT (
   person_id varchar(10),
   fname VARCHAR2(50),
   lname VARCHAR2(50),
   dob DATE,
   MEMBER FUNCTION FullName RETURN VARCHAR2,
   MEMBER FUNCTION OnDate RETURN DATE
) not final

CREATE OR REPLACE TYPE BODY PersonType AS
   MEMBER FUNCTION FullName RETURN VARCHAR2 IS
   BEGIN
      RETURN fname || ' ' || lname;
   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)
```

```
)

Drop table Employee;


INSERT INTO Employee VALUES('1', 'Ravi', 'Shetty', DATE '2003-04-04', 'Developer', 20000, 5000, DATE '2025-05-05');

INSERT INTO Employee VALUES ('2', 'Rajesh', 'Nayak', DATE '1990-02-20', 'Engineer', 40000, 4000, DATE '2015-07-10');

INSERT INTO Employee VALUES ('3', 'Nitin', 'Deshmukh', DATE '1988-03-10', 'Analyst', 35000, 3500, DATE '2012-09-20');

INSERT INTO Employee VALUES ('4', 'Pooja', 'Iyer', DATE '1992-04-05', 'Developer', 42000, 4200, DATE '2018-01-15');

INSERT INTO Employee VALUES ('5', 'Kavya', 'Jadhav', DATE '1983-05-22', 'Consultant', 48000, 4800, DATE '2011-11-01');

INSERT INTO Employee VALUES ('6', 'Divya', 'Sharma', DATE '1995-06-18', 'Tester', 37000, 3700, DATE '2019-08-25');

INSERT INTO Employee VALUES ('7', 'Vishal', 'Shinde', DATE '1993-07-11', 'HR Specialist', 39000, 3900, DATE '2017-03-10');

INSERT INTO Employee VALUES ('8', 'Siddharth', 'Naik', DATE '1986-08-30', 'Team Lead', 53000, 5300, DATE '2013-05-20');

INSERT INTO Employee VALUES ('9', 'Prakash', 'Mahajan', DATE '1991-09-15', 'Support Engineer', 41000, 4100, DATE '2016-10-05');

INSERT INTO Employee VALUES ('10','Rohit', 'Patil', DATE '1987-10-25', 'Project Manager', 55000, 5500, DATE '2009-04-15');



SELECT e.FullName() AS Employee_Name,

    e.dob AS Date_Of_Birth,

    e.OnDate() AS Join_Date,

    e.Earn() AS Earning

FROM Employee e;
```

ANS:

	EMPLOYEE_NAME	DATE_OF_BIRTH	JOIN_DATE	EARNING
1	Ravi Shetty	04-04-03	05-05-25	25000
2	Rajesh Nayak	20-02-90	10-07-15	44000
3	Nitin Deshmukh	10-03-88	20-09-12	38500
4	Pooja Iyer	05-04-92	15-01-18	46200
5	Kavya Jadhav	22-05-83	01-11-11	52800
6	Divya Sharma	18-06-95	25-08-19	40700
7	Vishal Shinde	11-07-93	10-03-17	42900
8	Siddharth Naik	30-08-86	20-05-13	58300
9	Prakash Mahajan	15-09-91	05-10-16	45100
10	Rohit Patil	25-10-87	15-04-09	60500

-- Q2 Implementing Table Inheritance in SQL Server

```
CREATE OR REPLACE TYPE People AS OBJECT (
    fname VARCHAR2(50),
    lname 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, lname)
);

CREATE TABLE teachers OF Teacher (
   PRIMARY KEY (fname, lname)
);

CREATE TABLE parents OF Parent (
   PRIMARY KEY (fname, lname)
);

INSERT INTO students VALUES ('Rohan', 'Sharma', 'P', DATE '2003-07-10', 9, 'Class A', 'Pradeep Sharma');
INSERT INTO students VALUES ('Vivek', 'Kulkarni', 'M', DATE '2003-05-22', 8, 'Class B', 'Vijay Kulkarni');
INSERT INTO students VALUES ('Nikhil', 'Rathod', 'S', DATE '2003-11-15', 10, 'Class C', 'Nitin Rathod');
INSERT INTO students VALUES ('Sneha', 'Joshi', 'B', DATE '2003-01-05', 7, 'Class D', 'Santosh Joshi');
INSERT INTO students VALUES ('Pranav', 'Gaikwad', 'R', DATE '2003-08-12', 11, 'Class E', 'Rajesh Gaikwad');
INSERT INTO students VALUES ('Aniket', 'Patil', 'S', DATE '2003-02-18', 12, 'Class F', 'Subhash Patil');
INSERT INTO students VALUES ('Manish', 'Verma', 'R', DATE '2003-09-25', 6, 'Class G', 'Ravi Verma');

INSERT INTO parents VALUES ('Pradeep', 'Sharma', 'K', DATE '1975-04-10', 'Rohan Sharma');
INSERT INTO parents VALUES ('Vijay', 'Kulkarni', 'M', DATE '1972-07-23', 'Vivek Kulkarni');
INSERT INTO parents VALUES ('Nitin', 'Rathod', 'S', DATE '1979-05-15', 'Nikhil Rathod');
INSERT INTO parents VALUES ('Santosh', 'Joshi', 'L', DATE '1980-09-17', 'Sneha Joshi');
```

INSERT INTO parents VALUES ('Rajesh', 'Gaikwad', 'N', DATE '1982-11-02', 'Pranav Gaikwad');

INSERT INTO parents VALUES ('Subhash', 'Patil', 'R', DATE '1976-03-22', 'Aniket Patil');

INSERT INTO parents VALUES ('Ravi', 'Verma', 'P', DATE '1978-10-10', 'Manish Verma');

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

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

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

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

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

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

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

SELECT * FROM students;

ANS:

	FNAME	LNAME	MNAME	BIRTH_DATE	GRADE	CLASS	PARENT_NAME
1	Rohan	Sharma	P	10-07-03	9	Class A	Pradeep Sharma
2	Vivek	Kulkarni	M	22-05-03	8	Class B	Vijay Kulkarni
3	Nikhil	Rathod	S	15-11-03	10	Class C	Nitin Rathod
4	Sneha	Joshi	B	05-01-03	7	Class D	Santosh Joshi
5	Pranav	Gaikwad	R	12-08-03	11	Class E	Rajesh Gaikwad
6	Aniket	Patil	S	18-02-03	12	Class F	Subhash Patil
7	Manish	Verma	R	25-09-03	6	Class G	Ravi Verma

SELECT * FROM teachers;

ANS:

	FNAME	LNAME	MNAME	BIRTH_DATE	CLASSES_TAUGHT	SKILLS	EMPLOYMENT_INFO
1	Aditi	Shukla	T	10-05-85	Math, Science	Math Expert	10 Years
2	Neha	Tripathi	A	20-04-80	English, History	Literature Specialist	12 Years
3	Pallavi	Sinha	D	30-08-83	Physics, Chemistry	Science Expert	8 Years
4	Maya	Pandey	F	11-12-81	Computer Science	Tech Expert	6 Years
5	Anjali	Kapoor	P	09-03-78	Physical Education	Fitness Expert	15 Years
6	Ritu	Gupta	G	19-06-86	Biology, Environmental Science	Biology Specialist	9 Years
7	Seema	Nair	L	07-07-84	Geography, Economics	Social Studies Expert	11 Years

SELECT * FROM parents;

ANS:

	FNAME	LNAME	MNAME	BIRTH_DATE	CHILDREN
1	Pradeep	Sharma	K	10-04-75	Rohan Sharma
2	Vijay	Kulkarni	M	23-07-72	Vivek Kulkarni
3	Nitin	Rathod	S	15-05-79	Nikhil Rathod
4	Santosh	Joshi	L	17-09-80	Sneha Joshi
5	Rajesh	Gaikwad	N	02-11-82	Pranav Gaikwad
6	Subhash	Patil	R	22-03-76	Aniket Patil
7	Ravi	Verma	P	10-10-78	Manish Verma