

Q.7. Create supertype person_typ with attributes id, name, phone_no and member function show that returns id and name of the person. Create table person of person_typ and insert records into it and display id and name of person using show function. Create subtype student_type of spertype person_typ with attributes dept_id and major. It has member function show that overrides member function of person_typ and returns the major of student. Create table student of student_type and insert record into it and display major of the student using show function.

SQL Query:

```
CREATE OR REPLACE TYPE person_typ AS OBJECT (  
    id INT,  
    name VARCHAR(50),  
    phone_no VARCHAR(15),  
    MEMBER FUNCTION show RETURN VARCHAR2  
);
```

```
CREATE TABLE person OF person_typ;
```

```
-- Insert records into the person table
```

```
INSERT INTO person VALUES (person_typ(1, 'John Doe', '555-123-4567'));
```

```
INSERT INTO person VALUES (person_typ(2, 'Jane Smith', '555-987-6543'));
```

```
-- Add more records as needed
```

```
-- Define the member function 'show' for 'person_typ'
```

```
CREATE OR REPLACE TYPE BODY person_typ AS  
    MEMBER FUNCTION show RETURN VARCHAR2 IS  
    BEGIN  
        RETURN TO_CHAR(self.id) || ' - ' || self.name;  
    END;  
END;
```

```
CREATE OR REPLACE TYPE student AS OBJECT (  
    person_data person_typ,  
    dept_id INT,  
    major VARCHAR(50),  
    MEMBER FUNCTION show RETURN VARCHAR2  
);
```

```
CREATE TABLE studentinfo OF student;
```

```
-- Insert records into the student table
```

```
INSERT INTO studentinfo VALUES (student(person_typ(3, 'Alice Johnson', '555-111-2222'), 101,  
'Computer Science'));
```

```
INSERT INTO studentinfo VALUES (student(person_typ(4, 'Bob Williams', '555-333-4444'), 102,  
'Engineering'));
```

```
-- Add more records as needed
```

```
-- Define the member function 'show' for 'student'
```

```
CREATE OR REPLACE TYPE BODY student AS  
    MEMBER FUNCTION show RETURN VARCHAR2 IS  
    BEGIN  
        RETURN self.major;  
    END;  
END;
```

-- Display id and name of persons using 'show' function

```
SELECT p.person_data.id, p.person_data.show() AS person_name FROM studentinfo p;
```

PERSON_DATA.ID	PERSON_NAME
3	3 - Alice Johnson
4	4 - Bob Williams

-- Display major of students using 'show' function

```
SELECT s.person_data.id, s.show() AS student_major FROM studentinfo s;
```

PERSON_DATA.ID	STUDENT_MAJOR
3	Computer Science
4	Engineering