

SET B Person – Area database

Person (pno int, name varchar (20), birthdate date, income money)

Area (aid int, aname varchar (20), area_type varchar (5))

The person and area related to many to one relationship. The attribute ‘area_type’ can have

values either ‘urban’ or ‘rural’.

Create the above database in PostGreSQL and insert sufficient records.

a. Write a stored function that accepts the area name as an input parameter from the user and displays the details of persons living in that area. Raise an exception if area name is invalid.

CREATE TABLE Area (

 aid SERIAL PRIMARY KEY,

 aname VARCHAR(20) NOT NULL,

 area_type VARCHAR(5) CHECK (area_type IN ('urban', 'rural')) NOT
 NULL

);

CREATE TABLE Person (

 pno SERIAL PRIMARY KEY,

 name VARCHAR(20) NOT NULL,

 birthdate DATE NOT NULL,

 income MONEY NOT NULL,

 aid INT,

 FOREIGN KEY (aid) REFERENCES Area(aid)

);

INSERT INTO Area VALUES(1, 'Downtown', 'urban');

INSERT INTO Area VALUES(2, 'Suburbia', 'urban');

INSERT INTO Area VALUES(3, 'Countryside', 'rural');

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INSERT INTO Area VALUES(4, 'Riverside', 'rural');
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INSERT INTO Person VALUES(101, 'Alice Smith', '1985-06-15', 45000, 1);
INSERT INTO Person VALUES(102, 'Bob Johnson', '1992-03-24', 55000, 1);
INSERT INTO Person VALUES(103, 'Charlie Lee', '1978-10-30', 35000, 2);
INSERT INTO Person VALUES(104, 'David Brown', '1989-12-10', 42000, 3);
INSERT INTO Person VALUES(105, 'Eva White', '1995-01-19', 50000, 4);
INSERT INTO Person VALUES(106, 'Frank Green', '1982-07-05', 48000, 3);
```

```
CREATE OR REPLACE FUNCTION get_persons_by_area(area_name
VARCHAR)
RETURNS TABLE(pno INT, name VARCHAR, birthdate DATE, income
MONEY) AS '
BEGIN
    IF NOT EXISTS (SELECT 1 FROM Area WHERE aname = area_name)
    THEN
        RAISE EXCEPTION "Area name % is invalid", area_name;
    END IF;
    RETURN QUERY
    SELECT p.pno, p.name, p.birthdate, p.income
    FROM Person p,Area a WHERE a.aname = area_name and p.aid = a.aid;
END;
' LANGUAGE plpgsql;
```

--Call the function

```
SELECT * FROM get_persons_by_area('Downtown');
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SELECT * FROM get_persons_by_area('UnknownArea');
```