

TWORZENIE TABEL

```
postgres=# CREATE TABLE klient(pesel VARCHAR(25) PRIMARY KEY, imie VARCHAR(25), nazwisko VARCHAR(25), wiek INT);
CREATE TABLE
postgres=# INSERT INTO klient(pesel, imie, nazwisko, wiek) VALUES
postgres-# ('77090300001', 'Antoni', 'Nowak', '30'),
postgres-# ('80030400002', 'Jerzy', 'MIS', '27'),
postgres-# ('49020912345', 'Aleksandra', 'Nowak', '58'),
postgres-# ('60120490003', 'Piotr', 'Szczepanik', '47');
INSERT 0 4
postgres=# CREATE TABLE konto(nrKonta BIGINT PRIMARY KEY, kwota FLOAT(10));
CREATE TABLE
postgres=# INSERT INTO konto(nrKonta, kwota) VALUES
postgres-# ('11110123', '10000'),
postgres-# ('11114567', '20000'),
postgres-# ('11118910', '100000'),
postgres-# ('11111112', '200000');
INSERT 0 4
postgres=# CREATE TABLE dane(nrKonta BIGINT REFERENCES konto(nrKonta), pesel VARCHAR(25) REFERENCES klient(pesel));
CREATE TABLE
postgres=# INSERT INTO dane(nrKonta, pesel) VALUES
postgres-# ('11110123', '77090300001'),
postgres-# ('11110123', '49020912345'),
postgres-# ('11114567', '77090300001'),
postgres-# ('11118910', '60120490003'),
postgres-# ('11111112', '77090300001'),
postgres-# ('11111112', '80030400002'),
postgres-# ('11111112', '49020912345');
INSERT 0 7
```

1.

```
postgres=# CREATE OR REPLACE FUNCTION ilosc_rachunkow(pesel VARCHAR(25))
postgres-# RETURNS INT
postgres-# AS 'SELECT COUNT(nrKonta) FROM dane WHERE pesel=$1 GROUP BY pesel;'
postgres-# LANGUAGE SQL;
CREATE FUNCTION
postgres=# SELECT DISTINCT dane.pesel, ilosc_rachunkow(pesel) FROM dane;
   pesel   | ilosc_rachunkow
-----+-----
 49020912345 |                2
 60120490003 |                1
 77090300001 |                3
 80030400002 |                1
(4 rows)
```

2.

```
postgres=# CREATE OR REPLACE FUNCTION dane_klienta(pesel VARCHAR(25))
postgres-# RETURNS VARCHAR
postgres-# AS $$ SELECT CONCAT(imie, ' ', nazwisko) AS imie_nazwisko FROM klient WHERE pesel=$1 GROUP BY pesel;
postgres-# LANGUAGE SQL;
CREATE FUNCTION
postgres=# SELECT DISTINCT dane_klienta(pesel), ilosc_rachunkow(pesel) FROM dane;
   dane_klienta   | ilosc_rachunkow
-----+-----
 Aleksandra Nowak |                2
 Antoni Nowak    |                3
 Jerzy MIS       |                1
 Piotr Szczepanik |                1
(4 rows)
```

3.

```
postgres=# CREATE OR REPLACE FUNCTION format()
postgres-# RETURNS TABLE(upper_naz VARCHAR)
postgres-# AS 'SELECT UPPER(nazwisko) FROM klient;'
postgres-# LANGUAGE SQL;
CREATE FUNCTION
postgres=# SELECT * FROM format();
 upper_naz
-----
 NOWAK
 MIS
 NOWAK
 SZCZEPANIK
(4 rows)
```

4.

```
postgres=# CREATE OR REPLACE FUNCTION srodki_pieniezne(pesel2 VARCHAR(25))
postgres=# RETURNS TABLE(srodki FLOAT(10))
postgres=# AS $$ SELECT SUM(kwota) AS srodki FROM konto WHERE nrKonta IN (SELECT nrKonta FROM dane WHERE pesel2=pesel);
postgres=# $$ LANGUAGE SQL;
CREATE FUNCTION
postgres=# SELECT DISTINCT pesel, srodki_pieniezne(pesel) FROM dane;
   pesel   | srodki_pieniezne
-----+-----
 49020912345 |      210000
 60120490003 |      100000
 77090300001 |      230000
 80030400002 |      200000
(4 rows)
```