

--1

```
DROP TABLE people;
SET DATESTYLE TO GERMAN;
CREATE TABLE people (
    id integer PRIMARY KEY,
    last_name varchar(32) NOT NULL,
    first_name varchar(32) NOT NULL,
    second_name varchar(32),
    sex char NOT NULL,
    CHECK (sex in ('М', 'Ж')),
    birthday date NOT NULL,
    death_date date,
    mother_id integer REFERENCES people(id),
    father_id integer REFERENCES people(id)
);
```

--2

```
DROP SEQUENCE people_id_seq;
CREATE SEQUENCE people_id_seq START WITH 1 INCREMENT BY 1 CACHE 5;
INSERT INTO people VALUES
(nextval('people_id_seq'),'Романов',
'Николай','Павлович','М','17.07.1796','14.03.1855',null,null);
INSERT INTO people VALUES
(nextval('people_id_seq'),'Романова',
'Александра','Федоровна','Ж','13.07.1798','01.11.1860',null,null);
INSERT INTO people VALUES
(nextval('people_id_seq'),'Романов','Александр','Николаевич','М','29.04.1818','13.03.1881',
(SELECT id FROM people WHERE (people.last_name ='Романова' and people.first_name =
'Александра' and people.second_name = 'Федоровна')),
(SELECT id FROM people WHERE (people.last_name ='Романов' and people.first_name =
'Николай' and people.second_name = 'Павлович')));
INSERT INTO people VALUES
(nextval('people_id_seq'),'Романова',
'Мария','Александровна','Ж','08.08.1824','03.06.1880',null,null);
INSERT INTO people VALUES
(nextval('people_id_seq'),'Романов',
'Александр','Александрович','М','10.03.1845','01.11.1894',
(SELECT id FROM people WHERE people.last_name ='Романова' and people.first_name =
'Мария' and people.second_name = 'Александровна'),
(SELECT id FROM people WHERE people.last_name ='Романов' and people.first_name =
'Александр' and people.second_name = 'Николаевич'));
SELECT * FROM people;
```

--3

```
SELECT p.last_name Last_name, p.first_name Fisrt_name ,p.second_name
Second_name,f.last_name fLast_name,
    f.first_name fFisrt_name, f.second_name fSecond_name, m.last_name
mLast_name,m.first_name mFirst_name,
    m.second_name mSecond_name from people p
```

```
LEFT JOIN people f ON (p.sex = 'M' and p.father_id = f.id) LEFT JOIN people m ON
(m.sex='Ж' and p.mother_id=m.id);
```

```
--4
```

```
UPDATE people SET birthday = birthday - interval '12 years',death_date = death_date - interval
'12 years'
RETURNING *;
```

```
--5
```

```
CREATE OR REPLACE PROCEDURE long_livers(age integer) as $$
```

```
DECLARE
```

```
    attr_e record;
```

```
    a integer;
```

```
BEGIN
```

```
    a:=0;
```

```
    FOR attr_e in (SELECT * FROM people WHERE EXTRACT(year FROM
age(death_date,birthday)) > age)
```

```
    LOOP
```

```
        raise info '% % % ',attr_e.first_name,attr_e.last_name,attr_e.second_name;
```

```
        a := a+1;
```

```
    END LOOP;
```

```
    raise info '%', a;
```

```
    raise info '%', (SELECT max(EXTRACT(year FROM age(death_date,birthday))) FROM
people);
```

```
    raise info '%', (SELECT min(EXTRACT(year FROM age(death_date,birthday))) FROM
people);
```

```
    raise info '%', (SELECT round(avg(EXTRACT(year FROM age(death_date,birthday))),2)
FROM people);
```

```
END
```

```
$$
```

```
LANGUAGE plpgsql;
```

```
call long_livers(45);
```

```
--6
```

```
WITH RECURSIVE len(id,father_id,l) AS
```

```
    (SELECT id, father_id, 1 FROM people WHERE id is NOT NULL
```

```
        UNION ALL
```

```
        SELECT people.id, people.father_id,len.l+1 FROM len JOIN people on len.id =
people.father_id)
```

```
SELECT max(l) FROM len;
```