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# SQL 2. dio - vježba

# Pri rješavanju zadataka koristiti sljedeći model

## airPort

airPortId INTEGER	airPortName VARCHAR(30)	kmToTheCity INTEGER
100	Zračna luka Split	25
101	Charles de Gaule	23
102	Heathrow	23
103	JFK Airport	21
104	Schönefeld Airport	17

## flight

flightId INTEGER	airPortFromId INTEGER	airPortToId INTEGER	departureTS TIMESTAMP	flightDuration INTERVAL
300	100	102	04.03.2022 08:30:00	02:35:00
301	102	100	05.03.2021 21:15:00	02:50:00
350	100	102	16.07.2021 08:30:00	02:35:00
351	102	100	17.07.2021 21:15:00	02:50:00
400	100	101	07.08.2021 11:20:00	02:05:00
...	...	...	...	...

## person

personId INTEGER	LName VARCHAR(30)	FName VARCHAR(30)	birthDate DATE
100	Han	Ana	01.05.2000
101	Kos	Filip	20.08.1995
457	Car	Pero	11.03.1980
458	Beg	Ema	21.12.1976

## passenger

flightId INTEGER	personId INTEGER	seat VARCHAR(5)	ticketPrice NUMERIC(7,2)	airPortFee NUMERIC(7,2)	rewardMiles INTEGER
300	100	2A	1570.50	950.99	500
300	101	23C	1470.50	950.99	520
300	457	12D	1000.20	950.99	480
301	100	14F	1770.70	850.99	400
...	...	...	...	...	...

# SQL – vježba 1

airPort

airPortId	airPortName	kmToTheCity
INTEGER	VARCHAR(30)	INTEGER
100	Zračna luka Split	12

person

personId	LName	FName	birthDate
INTEGER	VARCHAR(30)	VARCHAR(30)	DATE
100	Han	Ana	01.05.2000

flight

flightId	airPortFromId	airPortToId	departureTS	flightDuration
INTEGER	INTEGER	INTEGER	TIMESTAMP	INTERVAL
300	100	102	04.03.2022 08:30:00	02:35:00

passenger

flightId	personId	seat	ticketPrice	airPortFee	rewardMiles
INTEGER	INTEGER	VARCHAR(5)	NUMERIC(7,2)	NUMERIC(7,2)	INTEGER
300	100	2A	1570.50	950.99	500

Ispisati podatke o letovima (šifru, datum i vrijeme polaska) za koje još nema prodanih karata. U obzir uzeti samo letove s datumom polaska barem 1 tjedan nakon trenutnog datuma.

Rezultat :

flightId	departureTS
INTEGER	TIMESTAMP WITHOUT TIME ZONE
200	15.05.2022 09:20:00
201	14.08.2022 12:30:00
202	12.05.2022 19:55:00

# SQL – vježba 1

Ispisati podatke o letovima (šifru, datum i vrijeme polaska) za koje još nema prodanih karata. U obzir uzeti samo letove s datumom polaska barem 1 tjedan nakon trenutnog datuma.

```
SELECT flight.flightId, departureTS
FROM flight
WHERE departureTS >= CURRENT_DATE + '1 WEEK'::INTERVAL
AND NOT EXISTS (SELECT *
                 FROM passenger
                 WHERE flightId = flight.flightId)
```

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```
SELECT flight.flightId, departureTS
FROM flight
WHERE departureTS >= CURRENT_DATE + '1 WEEK'::INTERVAL
EXCEPT
SELECT flight.flightId, departureTS
FROM flight NATURAL JOIN passenger
WHERE departureTS >= CURRENT_DATE + '1 WEEK'::INTERVAL
```

# SQL – vježba 2

## airPort

airPortId	airPortName	kmToTheCity
INTEGER	VARCHAR(30)	INTEGER
100	Zračna luka Split	12

## person

personId	LName	FName	birthDate
INTEGER	VARCHAR(30)	VARCHAR(30)	DATE
100	Han	Ana	01.05.2000

## flight








flightId	airPortFromId	airPortToId	departureTS	flightDuration
INTEGER	INTEGER	INTEGER	TIMESTAMP	INTERVAL
300	100	102	04.03.2022 08:30:00	02:35:00

## passenger

flightId	personId	seat	ticketPrice	airPortFee	rewardMiles
INTEGER	INTEGER	VARCHAR(5)	NUMERIC(7,2)	NUMERIC(7,2)	INTEGER
300	100	2A	1570.50	950.99	500

Za letove (parove letova) koji imaju jednaka polazišta i jednaka odredišta, a dvije uzastopne godine su održani istog dana i mjeseca u godini ispisati naziv polazne i dolazne zračne luke, datume letova te broj putnika na svakom letu.

## Rezultat :

Data Output		Explain	Messages	Notifications		
	airportname character varying (30) 	airportname character varying (30) 	departuredate date 	nextdeparturedate date 	passengercnt bigint 	nextpassengercnt bigint 
1	Zračna luka Split	Heathrow	16.07.2021	16.07.2022	2	0
2	Heathrow	Zračna luka Split	17.07.2021	17.07.2022	2	0
3	Zračna luka Split	Heathrow	04.03.2021	04.03.2022	2	3
4	Heathrow	Zračna luka Split	05.03.2021	05.03.2022	2	3

# SQL – vježba 2

Za letove (parove letova) koji imaju jednaka polazišta i jednaka odredišta, a dvije uzastopne godine su održani istog dana i mjeseca u godini ispisati naziv polazne i dolazne zračne luke i datume letova te broj putnika na svakom letu.

```
SELECT airPortFrom.airPortName, airPortTo.airPortName, flight.departureTS::DATE
DepartureDate, flightNextY.departureTS::DATE nextYDepartureDate,
    (SELECT COUNT(passenger.personId)
     FROM passenger
     WHERE passenger.flightId = flight.flightId) passengerCnt,
    (SELECT COUNT(passenger.personId)
     FROM passenger
     WHERE passenger.flightId = flightNextY.flightId) nextYpassengerCnt
FROM flight
JOIN airPort airPortFrom ON flight.airPortFromId = airPortFrom.airPortId
JOIN airPort airPortTo ON flight.airPortToId = airPortTo.airPortId
JOIN flight flightNextY ON flight.airPortFromId = flightNextY.airPortFromId
                        AND flight.airPortToId = flightNextY.airPortToId
                        AND flight.departureTS::DATE + '1 YEAR'::INTERVAL =
flightNextY.departureTS::DATE
```

Rezultat :

Data Output		Explain	Messages	Notifications		
	airportname character varying (30)	airportname character varying (30)	departuredate date	nextydeparturedate date	passengercnt bigint	nextypassengercnt bigint
1	Zračna luka Split	Heathrow	16.07.2021	16.07.2022	2	0
2	Heathrow	Zračna luka Split	17.07.2021	17.07.2022	2	0
3	Zračna luka Split	Heathrow	04.03.2021	04.03.2022	2	3
4	Heathrow	Zračna luka Split	05.03.2021	05.03.2022	2	3

# SQL – vježba 3

airPort

airPortId	airPortName	kmToTheCity
INTEGER	VARCHAR(30)	INTEGER
100	Zračna luka Split	12

person

personId	LName	FName	birthDate
INTEGER	VARCHAR(30)	VARCHAR(30)	DATE
100	Han	Ana	01.05.2000

flight

flightId	airPortFromId	airPortToId	departureTS	flightDuration
INTEGER	INTEGER	INTEGER	TIMESTAMP	INTERVAL
300	100	102	04.03.2022 08:30:00	02:35:00

passenger

flightId	personId	seat	ticketPrice	airPortFee	rewardMiles
INTEGER	INTEGER	VARCHAR(5)	NUMERIC(7,2)	NUMERIC(7,2)	INTEGER
300	100	2A	1570.50	950.99	500

Ispisati podatke o putnicima koji su barem dva puta letjeli prije 25 godina starosti. Pored svih atributa iz **person** ispisati i koliko je puta putnik letio do 25 godina starosti.

Rezultat :

	personId [PK] integer	lname character varying (30)	fname character varying (30)	birthdate date	noofflights bigint
1	100	Han	Ana	01.05.2000	10

# SQL – vježba 3

Ispisati podatke o putnicima koji su barem dva puta letjeli prije 25 godina starosti. Pored svih atributa iz **person** ispisati i koliko je puta putnik letio do 25 godina starosti.

```
SELECT person.*, COUNT(*) noOfFlights
FROM person
NATURAL JOIN passenger
NATURAL JOIN flight
WHERE departureTS - birthDate < '25 YEARS'::INTERVAL
GROUP BY person.personId, LName, FName, birthDate
HAVING COUNT(*) >= 2
```

Rezultat :

Data Output		Explain	Messages	Notifications	
	personid [PK] integer	lname character varying (30)	fname character varying (30)	birthdate date	noofflights bigint
1	100	Han	Ana	01.05.2000	10



# SQL – vježba 4

airPort

airPortId	airPortName	kmToTheCity
INTEGER	VARCHAR(30)	INTEGER
100	Zračna luka Split	12

person

personId	LName	FName	birthDate
INTEGER	VARCHAR(30)	VARCHAR(30)	DATE
100	Han	Ana	01.05.2000

flight

flightId	airPortFromId	airPortToId	departureTS	flightDuration
INTEGER	INTEGER	INTEGER	TIMESTAMP	INTERVAL
300	100	102	04.03.2022 08:30:00	02:35:00

passenger

flightId	personId	seat	ticketPrice	airPortFee	rewardMiles
INTEGER	INTEGER	VARCHAR(5)	NUMERIC(7,2)	NUMERIC(7,2)	INTEGER
300	100	2A	1570.50	950.99	500

Ispisati podatke o osobama koje su barem jednom u zadnjih 5 godina bile na aerodromu 'Heathrow' i u zadnjih 5 godina nisu bile na aerodromu 'Schönefeld Airport'.

Rezultat :

	personid	lname	fname	birthdate
	[PK] integer	character varying (30)	character varying (30)	date
1	100	Han	Ana	01.05.2000
2	101	Kos	Filip	20.08.1995
3	457	Car	Pero	11.03.1980

# SQL – vježba 4 (rješenje 1)

Ispisati podatke o osobama koje su barem jednom u zadnjih 5 godina bile na aerodromu 'Heathrow' i u zadnjih 5 godina nisu bile na aerodromu 'Schönefeld Airport'.

```
SELECT DISTINCT person.*
FROM person
NATURAL JOIN passenger
NATURAL JOIN flight
JOIN airport airportFrom ON flight.airPortFromId = airportFrom.airPortId
JOIN airport airportTo ON flight.airPortToId = airportTo.airPortId
WHERE flight.departureTS BETWEEN CURRENT_DATE - '5 YEARS'::INTERVAL
      AND CURRENT_DATE
      AND (airportFrom.airPortName = 'Heathrow' OR
           airportTo.airPortName = 'Heathrow')
      AND NOT EXISTS
      (SELECT *
       FROM passenger
       NATURAL JOIN flight
       JOIN airport airportFrom ON flight.airPortFromId =
airportFrom.airPortId
       JOIN airport airportTo ON flight.airPortToId = airportTo.airPortId
       WHERE flight.departureTS BETWEEN CURRENT_DATE - '5 YEARS'::INTERVAL
             AND CURRENT_DATE
             AND (airportFrom.airPortName = 'Schönefeld Airport' OR
                  airportTo.airPortName = 'Schönefeld Airport')) )
```

# SQL – vježba 4 (rješenje 2)

Ispisati podatke o osobama koje su barem jednom u zadnjih 5 godina bile na aerodromu 'Heathrow' i u zadnjih 5 godina nisu bile na aerodromu 'Schönefeld Airport'.

```
SELECT DISTINCT person.*
FROM person
NATURAL JOIN passenger
NATURAL JOIN flight
JOIN airPort airPortFrom ON flight.airPortFromId = airPortFrom.airPortId
JOIN airPort airPortTo ON flight.airPortToId = airPortTo.airPortId
WHERE flight.departureTS BETWEEN CURRENT_DATE - '5 YEARS'::INTERVAL
      AND CURRENT_DATE
      AND (airPortFrom.airPortName = 'Heathrow' OR
          airPortTo.airPortName = 'Heathrow')
      AND NOT EXISTS
      (SELECT *
       FROM passenger
       NATURAL JOIN flight
       JOIN airPort airPortFrom ON flight.airPortFromId =
airPortFrom.airPortId
       JOIN airPort airPortTo ON flight.airPortToId = airPortTo.airPortId
       WHERE flight.departureTS BETWEEN CURRENT_DATE - '5 YEARS'::INTERVAL
             AND CURRENT_DATE
             AND (airPortFrom.airPortName = 'Schönefeld Airport' OR
                 airPortTo.airPortName = 'Schönefeld Airport'))
```