

Datenbanken

Praktikum 5

Aufgabe 1

1.1

Query

Query History

1 `select * from departure where datum = '2018-01-10';`

Data Output

Messages

Notifications

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| | flightid [PK] character varying (254) | datum [PK] date | planeid character varying (254) |
|---|---|---------------------------|---|
| 1 | LH-100 | 2018-01-10 | D-ABBL |
| 2 | LH-105 | 2018-01-10 | D-ABBB |
| 3 | LH-200 | 2018-01-10 | D-ABCA |
| 4 | LH-204 | 2018-01-10 | D-ABBF |

1.2

Query

Query History

1 `select passenger.LastName, passenger.FirstName, booking.FlightID`
2 `from passenger natural join booking order by passenger.customerID;`

Data Output

Messages

Notifications

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| | lastname character varying (254) | firstname character varying (254) | flightid character varying (254) |
|----|--|---|--|
| 1 | Roth | Michael | LH-100 |
| 2 | Roth | Michael | LH-100 |
| 3 | Roth | Michael | LH-105 |
| 4 | Roth | Michael | LH-200 |
| 5 | Schestag | Inge | LH-100 |
| 6 | Schestag | Inge | LH-100 |
| 7 | Schestag | Inge | LH-100 |
| 8 | Schestag | Inge | LH-100 |
| 9 | Schestag | Inge | LH-100 |
| 10 | Schestag | Inge | LH-100 |
| 11 | Schestag | Inge | LH-100 |
| 12 | Schestag | Inge | LH-100 |
| 13 | Störl | Uta | LH-100 |
| 14 | Peter | Thorsten | LH-102 |
| 15 | Ruehl | Stefan | LH-104 |

1.3

Query Query History

1 `select airport.Name from airport join flight on airport.IATA = flight.dest_IATA and flight.orig_IATA = 'LHR';`

Data Output Messages Notifications

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| | name | |
|---|---|---|
| | character varying (254) | 🔒 |
| 1 | Hartsfield-Jackson International Airport Atlan... | |
| 2 | Beijing Capital International Airport | |
| 3 | Dubai International Airport | |
| 4 | Chicago O Hare International Airport | |
| 5 | Frankfurt Airport | |

1.4

Query Query History

1 `select sum(booking.price) from booking join passenger on passenger.CustomerID = Booking.CustomerID`
2 `where Passenger.FirstName = 'Roth' and Passenger.LastName = 'Michael'`
3

Data Output Messages Notifications

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| | sum | |
|---|---------|---|
| | numeric | 🔒 |
| 1 | 505.00 | |

1.5

Query Query History

1 `select passenger.LastName, passenger.FirstName, count (booking.customerID)`
2 `from booking join passenger on passenger.CustomerID = booking.customerID`
3 `group by (passenger.LastName, passenger.FirstName) order by count (booking.customerID) desc;`

Data Output Messages Notifications

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| | lastname | firstname | count | |
|---|-------------------------|-------------------------|--------|---|
| | character varying (254) | character varying (254) | bigint | 🔒 |
| 1 | Schestag | Inge | 8 | |
| 2 | Roth | Michael | 4 | |
| 3 | Ruehl | Stefan | 1 | |
| 4 | Störl | Uta | 1 | |
| 5 | Peter | Thorsten | 1 | |

1.6


Query Query History

```

1 SELECT airport.iata
2 FROM airport
3 WHERE airport.iata NOT IN (SELECT airport.iata FROM flight)
4 OR
5 (SELECT COUNT(*) FROM flight WHERE flight.dest_iata = airport.iata) = 0;
6

```

Data Output Messages Notifications

| iata [PK] character varying (254)  | |
|--|-----|
| 1 | WDH |

1.7


Query Query History

```

1 WITH
2     reachable_airports AS (
3         SELECT DISTINCT dest_iata FROM flight WHERE orig_iata = 'FRA'
4     ),
5     transit_airports AS (
6         SELECT DISTINCT orig_iata FROM flight
7     )
8 SELECT DISTINCT dest_iata
9 FROM flight
10 WHERE orig_iata IN (SELECT * FROM reachable_airports)
11 AND dest_iata NOT IN (SELECT * FROM reachable_airports)
12 AND orig_iata IN (SELECT * FROM transit_airports)
13 AND dest_iata != 'FRA'
14
15

```

Data Output Messages Notifications

| dest_iata character varying (254)  | |
|--|-----|
| 1 | PEK |

1.8

Query

Query History

1

with flight_from_frankfurt as

2

(select departure.planeID from flight join departure on flight.flightID = departure.flightID

3

where flight.orig_iata = 'FRA' and departure.datum = '2018-02-10')

4

select sum(plane.seats) from Plane natural join flight_from_frankfurt;

Data Output

Messages

Notifications

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| | sum bigint | |
|---|---------------|--|
| 1 | 981 | |

1.9

Query

Query History

1

select plane.type, sum(plane.seats)

2

from plane join departure on plane.planeid = departure.planeid group by plane.type

3

order by sum(plane.seats) desc;

Data Output

Messages

Notifications

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| | type character varying (254) | | sum bigint | |
|---|---------------------------------|--|---------------|--|
| 1 | Airbus A380-800 | | 3054 | |
| 2 | Airbus A330-300 | | 2596 | |
| 3 | Airbus A340-600 | | 852 | |
| 4 | Boeing B737-700 | | 690 | |
| 5 | Airbus A350-900 | | 293 | |
| 6 | Airbus A340-300 | | 280 | |
| 7 | Airbus A320-200 | | 168 | |

1.10

Query

Query History

1

select flight.dest_iata, count(flight.dest_iata)

2

from flight group by flight.dest_iata having count(flight.dest_iata) > 1;

3

Data Output

Messages

Notifications

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| | dest_iata character varying (254) | | count bigint | |
|---|--------------------------------------|--|-----------------|--|
| 1 | ATL | | 2 | |
| 2 | ORD | | 2 | |
| 3 | DXB | | 2 | |

1.11

Query Query History

```

1 select technician.tFirstname, technician.tLastname
2 from technician join Maintenance on technician.tID = maintenance.tID
3 where maintenance.planeID = 'D-ABBB';

```

Data Output Messages Notifications



| | tfirstname character varying (254) 🔒 | tlastname character varying (254) 🔒 |
|---|---|--|
| 1 | Max | Stark |
| 2 | Felix | Meier |
| 3 | Lisa | Sturm |

1.12

Query Query History

```

1 select technician.tFirstName, technician.tLastName, count(maintenance.tID)
2 from technician join maintenance on technician.tID = maintenance.tID
3 group by technician.tFirstname, technician.tLastName
4 order by count(maintenance.tID) desc limit 1;

```

Data Output Messages Notifications



| | tfirstname character varying (254) 🔒 | tlastname character varying (254) 🔒 | count bigint 🔒 |
|---|---|--|-------------------|
| 1 | Felix | Meier | 13 |

Aufgabe 2

2.1

```
1 Alter Table booking
2 Add Check (price >= 50.00);
```

Data Output Messages Notifications

ALTER TABLE

Query returned successfully in 186 msec.

```
1 Insert into Booking(CustomerID, FlightID, Datum, Price) values
2 (1 , 'LH-100' , '2018-01-10' , 49.99);
```

Data Output Messages Notifications

ERROR: new row for relation "booking" violates check constraint "booking_price_check"
DETAIL: Failing row contains (1, LH-100, 2018-01-10, 49.99).
SQL state: 23514

2.2

Query Query History

```
1 Alter Table Plane
2 Add Constraint keine_leeren_flugzeuge Check (seats >= 0);
```

Data Output Messages Notifications

ALTER TABLE

Query returned successfully in 126 msec.

```
1 INSERT INTO Plane(PlaneID, Type, Seats) VALUES
2 ('D-ABBB', 'Airbus A330-300', -5);
```

Data Output Messages Notifications

ERROR: new row for relation "plane" violates check constraint "keine_leeren_flugzeuge"
DETAIL: Failing row contains (D-ABBB, Airbus A330-300, -5).
SQL state: 23514

2.3

Query Query History

```
1  Alter Table Plane
2  Alter seats Set Default 100;
```

Data Output Messages Notifications

ALTER TABLE

Query returned successfully in 85 msec.

```
1  INSERT INTO Plane(PlaneID, Type) VALUES
2  ('B-PLANE', 'Name ILoveDB');
```

Data Output Messages Notifications

INSERT 0 1

Query returned successfully in 217 msec.

1

| | planeid [PK] character varying (254) | type character varying (254) | seats integer |
|----|---|---------------------------------|------------------|
| 6 | D-ABBG | Airbus A340-300 | 271 |
| 7 | D-ABBH | Airbus A340-300 | 243 |
| 8 | D-ABBI | Airbus A340-600 | 266 |
| 9 | D-ABBK | Airbus A340-600 | 293 |
| 10 | D-ABBL | Airbus A380-800 | 509 |
| 11 | D-ABBM | Airbus A350-900 | 293 |
| 12 | D-ABBO | Airbus A350-900 | 297 |
| 13 | D-ABBP | Airbus A350-900 | 288 |
| 14 | D-ABBQ | Airbus A350-900 | 288 |
| 15 | D-ABBR | Airbus A320-200 | 168 |
| 16 | D-ABBS | Airbus A320-200 | 168 |
| 17 | D-ABBT | Airbus A320-200 | 170 |
| 18 | D-ABBU | Airbus A320-200 | 142 |
| 19 | D-ABBW | Boeing B747-8 | 364 |
| 20 | D-ABBX | Boeing B747-8 | 364 |
| 21 | D-ABBY | Boeing B747-8 | 364 |
| 22 | D-ABBZ | Boeing B747-8 | 364 |
| 23 | D-ABCA | Boeing B737-700 | 86 |
| 24 | D-ABCC | Boeing B737-700 | 88 |
| 25 | B-PLANE | Name ILoveDB | 100 |