

TASK 1

The screenshot displays the pgAdmin 4 web interface. On the left, the 'Object Explorer' sidebar shows a tree view of database objects, with 'passengers' selected under the 'public.passengers/Airport/postgres@PostgreSQL 17*' connection. The main query editor shows a SQL query: `SELECT * FROM passengers WHERE last_name = first_name`. Below the query editor, the 'Data Output' tab displays the results of the query in a table format. The table has 10 columns: `passenger_id` (PK integer), `first_name` (character varying (50)), `last_name` (character varying (50)), `date_of_birth` (date), `gender` (character varying (50)), `country_of_citizenship` (character varying (50)), `country_of_residence` (character varying (50)), `passport_number` (character varying (20)), and `created_at` (timestamp). The results show 8 rows of data.

	passenger_id [PK] integer	first_name character varying (50)	last_name character varying (50)	date_of_birth date	gender character varying (50)	country_of_citizenship character varying (50)	country_of_residence character varying (50)	passport_number character varying (20)	created_at timestamp
1	20	Michael	Michael	1997-09-23	Female	Brazil	Germany	P00020104	2021-08-23
2	40	Pavel	Pavel	2004-03-16	Male	Germany	Spain	P00040181	2022-04-23
3	60	Maria	Maria	1989-05-09	Male	USA	USA	P00060644	2023-10-23
4	80	Michael	Michael	1973-01-23	Male	China	China	P00080501	2023-05-23
5	100	John	John	2002-02-13	Male	France	France	P00100221	2024-04-23
6	120	John	John	1972-02-05	Male	Kazakhstan	Kazakhstan	P00120736	2025-08-23
7	140	John	John	1992-06-22	Male	USA	Russia	P00140196	2022-03-23
8	160	Maria	Maria	1978-09-04	Male	Poland	Russia	P00160971	2021-03-23

TASK 2

The screenshot displays the pgAdmin 4 web interface. On the left, the 'Object Explorer' pane shows a tree view of database objects. The 'passengers' table is selected under the 'Tables (10)' category. The main pane shows a SQL query: `SELECT DISTINCT last_name FROM passengers`. Below the query, the 'Data Output' tab displays the results in a table format. The table has two columns: 'last_name' (character varying (50)) and a row number. The results show 16 distinct last names: Ivanov, Wilson, John, Miller, Taylor, Davis, Pavel, Maria, and Brown.

pgAdmin 4

File Object Tools Edit View Window Help

Object Explorer

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 - security_check
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- Login/Group Roles

public.passengers/Airport/postgres@PostgreSQL 17*

public.passengers/Airport/postgres@PostgreSQL 17

No limit

Query Query History

1 `SELECT DISTINCT last_name FROM passengers`

Scratch Pad

Data Output Messages Notifications

Showing rows: 1 to 16 Page No: 1 of 1

	last_name character varying (50)
8	Ivanov
9	Wilson
10	John
11	Miller
12	Taylor
13	Davis
14	Pavel
15	Maria
16	Brown

TASK 3

pgAdmin 4

File Object Tools Edit View Window Help

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public.passengers/Airport/postgres@PostgreSQL 17* x

Query Query History

```
1 SELECT * FROM passengers
2 WHERE gender = 'Male' AND
3 date_of_birth BETWEEN '1990-01-01' AND '2000-12-31'
```

Data Output Messages Notifications

Showing rows: 1 to 32 Page No: 1 of 1

	passenger_id [PK] integer	first_name character varying (50)	last_name character varying (50)	date_of_birth date	gender character varying (50)	country_of_citizenship character varying (50)	country_of_residence character varying (50)	passport_number character varying (20)	created_a timestamp
25	162	Pavel	Wilson	1994-10-22	Male	Portugal	France	P00162192	2024-07-
26	173	Anna	Johnson	1994-11-28	Male	China	Germany	P00173898	2023-01-
27	185	Olga	Brown	1993-06-21	Male	Portugal	Spain	P00185776	2022-11-
28	186	Olga	Davis	1996-10-26	Male	Portugal	USA	P00186274	2024-01-
29	188	Alex	Taylor	2000-02-01	Male	USA	Poland	P00188307	2025-12-
30	193	Alex	Ivanov	1992-02-15	Male	Germany	Poland	P00193713	2025-09-
31	197	John	Brown	1993-07-25	Male	Spain	Russia	P00197348	2025-06-
32	199	Michael	Williams	1993-08-24	Male	Spain	France	P00199643	2022-06-

TASK 4

The screenshot displays the pgAdmin 4 web interface. On the left, the 'Object Explorer' sidebar shows a tree view of database objects. The 'booking' table is selected under the 'Tables (10)' category. The main pane shows a SQL query window with the following query:

```
1 SELECT SUM(ticket_price) AS sum_of_price, EXTRACT(MONTH FROM created_at) AS month
2 FROM booking
3 GROUP BY month
4 ORDER BY sum_of_price ASC;
```

Below the query window, the 'Data Output' tab is active, showing the results of the query in a table format. The table has two columns: 'sum_of_price' (numeric) and 'month' (numeric). The results are as follows:

	sum_of_price numeric	month numeric
1	21690.72	2
2	28948.95	9
3	33007.18	6
4	34721.73	11
5	36204.40	5
6	40722.47	7
7	42503.45	1
8	44259.66	3
9	45007.52	10

TASK 5

pgAdmin 4

File Object Tools Edit View Window Help

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public.booking/Air... × public.flights/Air... × public.airport/Airport/postgres@PostgreSQL 17* ×

public.airport/Airport/postgres@PostgreSQL 17

Query Query History

```
1 SELECT *
2 FROM flights f
3 JOIN airport a
4 ON f.arriving_airport_id = a.airport_id
5 WHERE a.country = 'China';
```

Data Output Messages Notifications

Showing rows: 1 to 6 Page No: 1 of 1

		act_departure_time timestamp without time zone	act_arrival_time timestamp without time zone	created_at timestamp without time zone	updated_at timestamp without time zone	airport_id integer	airport_name character varying (50)	country character varying (50)
1	64	2021-01-23 13:48:34	2021-01-24 00:28:34	2025-09-02 02:43:50	2025-09-21 02:43:50	167	Airport_167	China
2	05	2021-02-09 10:45:22	2021-02-09 13:40:22	2025-06-27 09:36:29	2025-07-21 09:36:29	164	Airport_164	China
3	68	2021-08-23 05:55:16	2021-08-23 10:55:16	2024-01-15 06:16:31	2024-02-22 06:16:31	164	Airport_164	China
4	70	2023-01-30 04:32:19	2023-01-30 12:37:19	2022-10-21 03:52:03	2022-12-15 03:52:03	129	Airport_129	China
5	37	2025-08-29 01:04:50	2025-08-29 05:44:50	2022-03-13 19:13:39	2022-04-30 19:13:39	122	Airport_122	China
6	14	2023-04-03 09:37:02	2023-04-03 12:22:02	2022-02-24 11:56:40	2022-03-05 11:56:40	8	Airport_8	China

TASK 6

The screenshot shows the pgAdmin 4 interface. On the left is the Object Explorer with a tree view of database objects. The 'airline' table is selected under the 'public.airline/Airport/postgres@PostgreSQL 17*' connection. The main pane displays a SQL query:

```
1 SELECT * FROM airline
2 WHERE airline_country = 'Portugal' AND
3 created_at BETWEEN '2023-11-01' AND '2024-03-31'
```

Below the query editor, the 'Data Output' tab shows the results of the query in a table format. The table has 7 columns: airline_id, airline_code, airline_name, airline_country, created_at, and updated_at. There are 2 rows of data.

	airline_id [PK] integer	airline_code character varying (30)	airline_name character varying (50)	airline_country character varying (50)	created_at timestamp without time zone	updated_at timestamp without time zone
1	121	A121	AirEasy_121	Portugal	2024-03-13 09:00:00	2024-04-23 09:00:00
2	166	A166	EuroFly_166	Portugal	2024-02-01 09:00:00	2024-04-03 09:00:00

TASK 7

The screenshot displays the pgAdmin 4 web interface. On the left, the 'Object Explorer' sidebar shows a tree structure of database objects. The 'airline' table is selected under the 'public.airline' schema. The main query editor shows a SQL query that filters for flights from Kazakhstan. Below the query editor, the 'Data Output' tab displays the results of the query in a table format. The table has two columns: 'airline_name' and 'airline_country'. The results show 9 rows of data, all from Kazakhstan.

Object Explorer:

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Query Editor:

```
1 SELECT airline_name, airline_country FROM airline
2 WHERE airline_country = 'Kazakhstan';
```

Data Output:

	airline_name character varying (50)	airline_country character varying (50)
21	FlyFly_113	Kazakhstan
22	SteppeWings_138	Kazakhstan
23	BlueWings_145	Kazakhstan
24	FlyHigh_172	Kazakhstan
25	KazAir_180	Kazakhstan
26	BlueWings_185	Kazakhstan
27	KazAir_190	Kazakhstan
28	FlyHigh_192	Kazakhstan
29	EuroFly_196	Kazakhstan

TASK 8

BEFORE

The screenshot shows the pgAdmin 4 interface with a SQL query editor. The query is:

```
1 UPDATE booking
2 SET ticket_price = ticket_price * 0.9
3 WHERE created_at < '2023-11-01';
4
```

The Data Output tab shows the following table:

	booking_id [PK] integer	flight_id integer	passenger_id integer	booking_platform character varying (50)	created_at timestamp without time zone	updated_at timestamp without time zone	status character varying (50)	ticket_price numeric (7,2)
1	1	101	71	Kiosk	2021-08-20 05:39:39	2021-09-10 05:39:39	Pending	2891.97
2	2	8	15	Kiosk	2021-06-26 20:45:18	2021-08-10 20:45:18	Confirmed	1166.22
3	3	172	125	Kiosk	2023-05-30 17:48:05	2023-06-27 17:48:05	Confirmed	2698.89
4	4	177	193	Kiosk	2024-02-09 03:56:52	2024-03-09 03:56:52	Cancelled	991.58
5	5	65	50	Website	2022-11-03 05:34:06	2023-01-17 05:34:06	Pending	2290.07
6	6	172	121	Agency	2021-10-13 07:40:56	2021-10-15 07:40:56	Pending	1146.73
7	7	178	127	Agency	2021-12-07 22:54:41	2022-02-02 22:54:41	Cancelled	1796.26
8	8	91	167	Kiosk	2023-02-07 16:14:08	2023-04-27 16:14:08	Confirmed	2831.57
9	9	153	7	Website	2022-08-08 16:06:53	2022-08-10 16:06:53	Cancelled	1993.37

AFTER

The screenshot shows the pgAdmin 4 interface with the same SQL query editor. The query is:

```
1 SELECT * FROM booking
2 ORDER BY booking_id ASC
```

The Data Output tab shows the following table:

	booking_id [PK] integer	flight_id integer	passenger_id integer	booking_platform character varying (50)	created_at timestamp without time zone	updated_at timestamp without time zone	status character varying (50)	ticket_price numeric (7,2)
1	1	101	71	Kiosk	2021-08-20 05:39:39	2021-09-10 05:39:39	Pending	2891.97
2	2	8	15	Kiosk	2021-06-26 20:45:18	2021-08-10 20:45:18	Confirmed	1166.22
3	3	172	125	Kiosk	2023-05-30 17:48:05	2023-06-27 17:48:05	Confirmed	2698.89
4	4	177	193	Kiosk	2024-02-09 03:56:52	2024-03-09 03:56:52	Cancelled	991.58
5	5	65	50	Website	2022-11-03 05:34:06	2023-01-17 05:34:06	Pending	2290.07
6	6	172	121	Agency	2021-10-13 07:40:56	2021-10-15 07:40:56	Pending	1146.73
7	7	178	127	Agency	2021-12-07 22:54:41	2022-02-02 22:54:41	Cancelled	1796.26
8	8	91	167	Kiosk	2023-02-07 16:14:08	2023-04-27 16:14:08	Confirmed	2831.57
9	9	153	7	Website	2022-08-08 16:06:53	2022-08-10 16:06:53	Cancelled	1993.37

TASK 9

The screenshot displays the pgAdmin 4 web interface. On the left, the 'Object Explorer' pane shows a tree structure of database objects. The 'baggage' table is selected under the 'airport' schema. The main query editor shows a SQL query that selects all columns from the 'baggage' table, filtered by 'weight_in_kg' greater than 25, ordered by 'weight_in_kg' in descending order, and limited to 3 rows.

```
1 SELECT * FROM public.baggage
2 WHERE weight_in_kg > 25
3 ORDER BY weight_in_kg DESC
4 LIMIT 3;
```

Below the query editor, the 'Data Output' tab shows the results of the query in a table format. The table has five columns: 'baggage_id' (integer), 'weight_in_kg' (numeric), 'created_at' (timestamp), 'updated_at' (timestamp), and 'booking_id' (integer). The results show three rows of data.

	baggage_id [PK] integer	weight_in_kg numeric (4,2)	created_at timestamp without time zone	updated_at timestamp without time zone	booking_id integer
1	29	39.92	2022-07-31 22:21:49	2022-08-06 22:21:49	187
2	88	39.89	2025-08-27 07:46:47	2025-09-02 07:46:47	44
3	111	39.78	2022-06-22 01:09:21	2022-06-24 01:09:21	85

TASK 10

The screenshot displays the pgAdmin 4 web interface. On the left, the 'Object Explorer' sidebar shows a tree view of database objects, with 'passengers' under 'Tables (10)' selected. The main workspace is divided into three panes. The top pane shows the connection 'public.passengers/Airport/postgres@PostgreSQL 17*'. The middle pane contains a SQL query:

```
1 SELECT last_name || ' ' || first_name as Full_name, date_of_birth FROM passengers
2 WHERE date_of_birth = (SELECT MAX(date_of_birth) FROM passengers);
3
```

The bottom pane, titled 'Data Output', shows the results of the query in a table with two columns: 'full_name' (text) and 'date_of_birth' (date). The first row shows 'Brown Olga' and '2010-06-20'. The interface also includes a 'Scratch Pad' on the right and a status bar at the bottom indicating 'Showing rows: 1 to 1' and 'Page No: 1 of 1'.

	full_name	date_of_birth
1	Brown Olga	2010-06-20

TASK 11

The screenshot shows the pgAdmin 4 web interface. On the left, the 'Object Explorer' pane displays a tree view of the database structure. The 'booking' table is selected under the 'Tables (10)' category. The main pane shows a SQL query editor with the following query:

```
1 SELECT booking_platform, MIN(ticket_price) AS cheapest_price
2 FROM booking
3 GROUP BY booking_platform;
4
```

Below the query editor, the 'Data Output' pane displays the results of the query in a table format. The table has two columns: 'booking_platform' (character varying (50)) and 'cheapest_price' (numeric). The results show four rows of data:

	booking_platform	cheapest_price
1	Agency	251.21
2	MobileApp	47.56
3	Kiosk	75.74
4	Website	229.34

The interface also includes a 'Scratch Pad' tab on the right and a status bar at the bottom indicating 'Showing rows: 1 to 4' and 'Page No: 1 of 1'.

TASK 12

The screenshot shows the pgAdmin 4 web interface. On the left, the 'Object Explorer' sidebar is open, displaying a tree view of database objects. The 'Tables (10)' folder is expanded, and the 'booking' table is selected. The main pane shows a SQL query editor with the following query:

```
1 SELECT airline_code FROM airline
2 WHERE airline_code ~ '[0-9]'
```

Below the query editor, the 'Data Output' tab is active, displaying the results of the query. The results are shown in a table with the following columns and data:

airline_code
A001
A002
A003
A004
A005
A006
A007
A008
A009

The interface also includes a 'Scratch Pad' on the right and a 'Messages' and 'Notifications' section at the bottom. The status bar at the bottom indicates 'Showing rows: 1 to 200' and 'Page No: 1 of 1'.

TASK 13

pgAdmin 4

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public.booking/Airport/postgres@PostgreSQL 17* x

public.booking/Airport/postgres@PostgreSQL 17

No limit

Query Query History

```
1 SELECT * FROM airline
2 ORDER BY created_at DESC
3 LIMIT 5
```

Scratch Pad x

Data Output Messages Notifications

Showing rows: 1 to 5 Page No: 1 of 1

	airline_id [PK] integer	airline_code character varying (30)	airline_name character varying (50)	airline_country character varying (50)	created_at timestamp without time zone	updated_at timestamp without time zone
1	60	A060	KazAir_60	Kazakhstan	2025-01-26 09:00:00	2025-04-22 09:00:00
2	69	A069	NomadAir_69	Poland	2025-01-16 09:00:00	2025-04-12 09:00:00
3	107	A107	AsiaAir_107	China	2025-01-06 09:00:00	2025-01-18 09:00:00
4	75	A075	BlueWings_75	USA	2024-12-17 09:00:00	2025-02-15 09:00:00
5	15	A015	BlueWings_15	Kazakhstan	2024-12-15 09:00:00	2024-12-25 09:00:00

TASK 14

pgAdmin 4

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public.booking/Air... x public.booking/Airport/postgres@PostgreSQL 17* x public.security_ch... x

public.booking/Airport/postgres@PostgreSQL 17

Query Query History

```
1 SELECT * FROM
2 booking b
3 JOIN security_check s
4 ON b.passenger_id = s.passenger_id
5 WHERE b.booking_id BETWEEN 100 AND 200
6 AND s.check_result <> 'Checked';
7
```

I HAVE ONLY 200 ROWS SO I CHANGED THE CONDITIONS

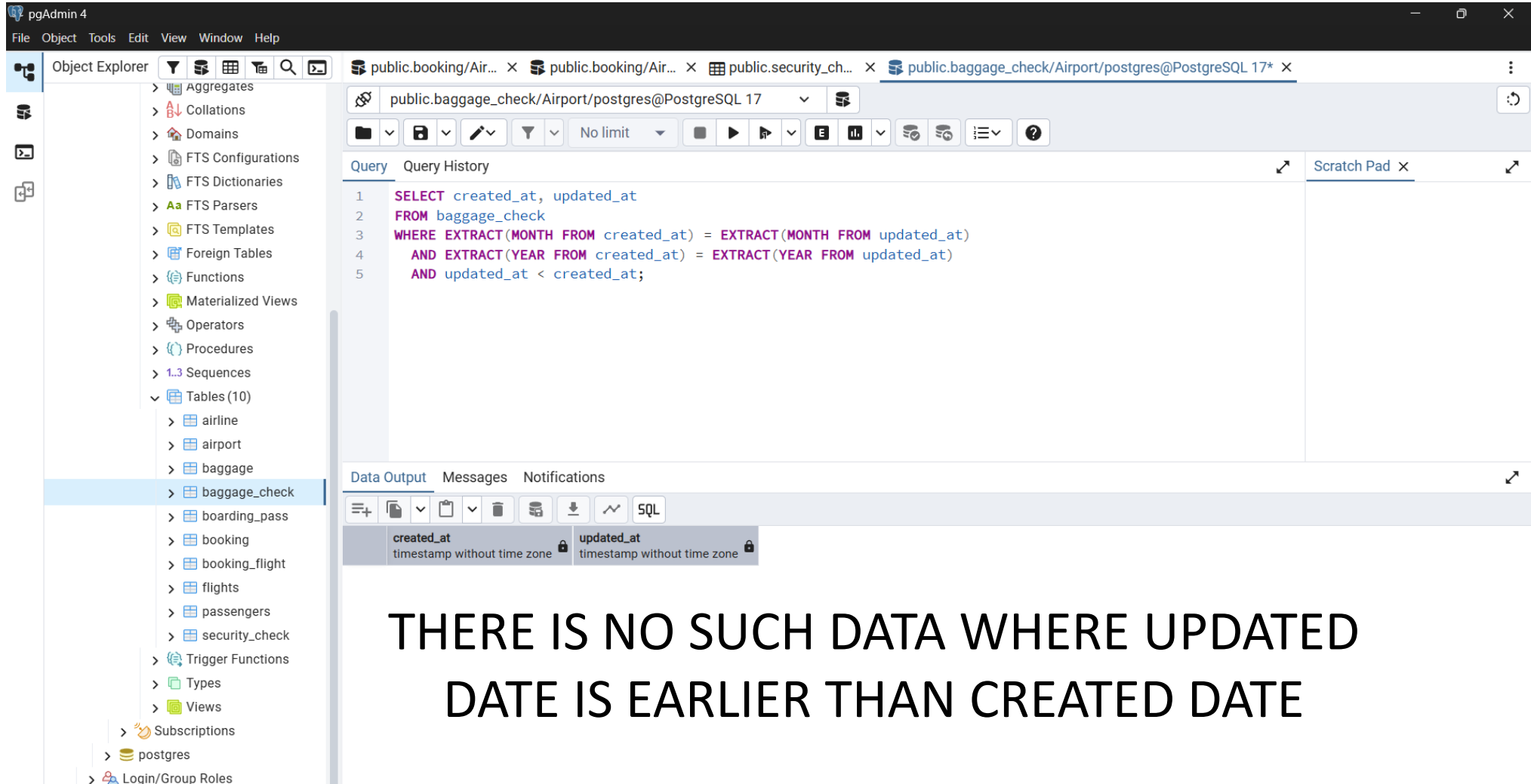
Scratch Pad

Data Output Messages Notifications

Showing rows: 1 to 75 Page No: 1 of 1

	booking_id integer	flight_id integer	passenger_id integer	booking_platform character varying (50)	created_at timestamp without time zone	updated_at timestamp without time zone	status character varying (50)	ticket_price numeric (7,2)	security_check_id integer
68	183	44	183	Website	2021-04-03 00:08:23	2021-06-30 00:08:23	Pending	766.32	1
69	183	44	183	Website	2021-04-03 00:08:23	2021-06-30 00:08:23	Pending	766.32	
70	188	70	70	MobileApp	2023-07-02 11:55:30	2023-07-20 11:55:30	Pending	1169.23	1
71	190	88	84	Kiosk	2022-06-10 22:27:14	2022-08-01 22:27:14	Confirmed	1667.83	
72	193	9	159	Website	2021-11-16 18:30:58	2021-11-18 18:30:58	Cancelled	3587.24	1
73	193	9	159	Website	2021-11-16 18:30:58	2021-11-18 18:30:58	Cancelled	3587.24	
74	195	134	166	Kiosk	2021-01-25 02:56:39	2021-02-14 02:56:39	Pending	1464.53	1
75	195	134	166	Kiosk	2021-01-25 02:56:39	2021-02-14 02:56:39	Pending	1464.53	

TASK 15



The screenshot shows the pgAdmin 4 interface. On the left, the Object Explorer displays a tree structure of database objects, with 'baggage_check' selected under 'Tables (10)'. The main query editor displays the following SQL query:

```
1 SELECT created_at, updated_at
2 FROM baggage_check
3 WHERE EXTRACT(MONTH FROM created_at) = EXTRACT(MONTH FROM updated_at)
4 AND EXTRACT(YEAR FROM created_at) = EXTRACT(YEAR FROM updated_at)
5 AND updated_at < created_at;
```

Below the query editor, the 'Data Output' tab shows the results of the query. The results are displayed in a table with two columns: 'created_at' and 'updated_at', both of type 'timestamp without time zone'. The table is currently empty, indicating that no data was returned by the query.

created_at	updated_at
------------	------------

THERE IS NO SUCH DATA WHERE UPDATED DATE IS EARLIER THAN CREATED DATE