

Task 1

The screenshot shows a database IDE with a dark theme. The 'Database Explorer' on the left shows a PostgreSQL database with a 'public' schema containing a table named 'airline'. The main editor displays a SQL query in 'lab4.sql':

```
1 SELECT UPPER(airline_name) AS airline_name
2 FROM airline;
```

The 'Output' pane at the bottom shows the results of the query, displaying a table with one column, 'airline_name', and 104 rows. The first few rows are:

airline_name
RUTRUM
VEL
AMET
RHONCUS
BIBENDUM
DICTUMST
QUISQUE
SIT
CONVALLIS
NEC
AMET

Task 2

The screenshot shows the same database IDE with a different SQL query in 'lab4.sql':

```
1 SELECT UPPER(airline_name) AS airline_name
2 FROM airline;
3
4 SELECT REPLACE(airline_name, 'Air', 'Aero') AS modified_airline_name
5 FROM airline;
```

The 'Output' pane shows the results of the second query, displaying a table with one column, 'modified_airline_name', and 104 rows. The first few rows are:

modified_airline_name
nisl
justo
sit
KazAero
AeroEasy
FlyHigh
FlyFly

Task 3

The screenshot shows a database IDE with the following components:

- Database Explorer:** Displays the schema for the `postgres@localhost` database, including tables like `departing_airport_id`, `arriving_airport_id`, `departing_gate`, `arriving_gate`, `airline_id`, `act_departure_time`, `act_arrival_time`, `created_at`, and `updated_at`.
- SQL Editor:** Contains three queries in `lab4.sql`:
 - `SELECT UPPER(airline_name) AS airline_name FROM airline;`
 - `SELECT REPLACE(airline_name, 'Air', 'Aero') AS modified_airline_name FROM airline;`
 - `SELECT flight_id FROM flights WHERE airline_id IN (1, 2);`
- Output:** Shows the results of the third query in the `postgres.public.flights` table:

flight_id
1
2
- Services:** Displays the execution of the queries, showing the time taken for each (e.g., 84 ms for the third query).

Task 4

The screenshot shows a database IDE with the following components:

- Database Explorer:** Displays the schema for the `postgres@localhost` database, including tables like `departing_airport_id`, `arriving_airport_id`, `departing_gate`, `arriving_gate`, `airline_id`, `act_departure_time`, `act_arrival_time`, `created_at`, and `updated_at`.
- SQL Editor:** Contains three queries in `lab4.sql`:
 - `SELECT UPPER(airline_name) AS airline_name FROM airline;`
 - `SELECT REPLACE(airline_name, 'Air', 'Aero') AS modified_airline_name FROM airline;`
 - `SELECT airport_name FROM airport WHERE airport_name LIKE '%Regional%' AND airport_name LIKE '%Air%';`
- Output:** Shows the results of the third query in the `postgres.public.airport` table:

airport_name

- Services:** Displays the execution of the queries, showing the time taken for each (e.g., 66 ms for the third query).

Task 5

The screenshot shows a database IDE with the following components:

- Database Explorer:** Shows a database schema with tables: `updated_at` (timestamp), `keys` (1), `foreign keys` (3), `indexes` (1), `passenger` (10 columns), and `columns` (10).
- SQL Editor:** Contains the following queries:

```
4 SELECT REPLACE(airline_name, 'Air', 'Aero') AS modified_airline_name
5 FROM airline;

7 SELECT flight_id
8 FROM flights
9 WHERE airline_id IN (1, 2);

11 SELECT airport_name
12 FROM airport
13 WHERE airport_name LIKE '%Regional%' AND airport_name LIKE '%Air%';

15 SELECT first_name,
16       TO_CHAR(date_of_birth, 'MM %d, %Y') AS formatted_birth_date
17 FROM passenger;
```
- Output/Result:** Shows the results of the last query (Result 6) with 10 rows:

first_name	formatted_birth_date
Rex	MM %3, %3
Zondra	MM %6, %3
Lucille	MM %5, %3
Olva	MM %5, %4
Amelina	MM %5, %3
JerryLee	MM %3, %4
Ardith	MM %1, %4
Frans	MM %1, %4
Aloysia	MM %1, %3
Ursoia	MM %2, %4

Task 6

The screenshot shows a database IDE with the following components:

- Database Explorer:** Shows a database schema with tables: `updated_at` (timestamp), `keys` (1), `foreign keys` (3), `indexes` (1), `passenger` (10 columns), and `columns` (10).
- SQL Editor:** Contains the following queries:

```
15 --task 4
16 SELECT airport_name
17 FROM airport
18 WHERE airport_name LIKE '%Regional%' AND airport_name LIKE '%Air%';

20 --task 5
21 SELECT first_name,
22       TO_CHAR(date_of_birth, 'MM %d, %Y') AS formatted_birth_date
23 FROM passenger;

25 --task 6
26 SELECT flight_id
27 FROM flights
28 WHERE act_arrival_time > sch_arrival_time;
```
- Output/Result:** Shows the results of the last query (Result 6) with 10 rows:

flight_id
1
2
3
4
9
12
13
15
16
19

Task 7

The screenshot shows an IDE interface with a dark theme. The top bar includes a version control dropdown set to '11' and a 'Playground' button. The 'Database Explorer' on the left shows a PostgreSQL database with tables like 'passenger' and 'flights'. The main editor displays a SQL script for 'Task 7' which selects flight IDs and then passenger first names categorized by age group. The 'Services' panel at the bottom shows the execution of 'lab4.sql' on 'postgres@localhost', resulting in a table with 10 rows of passenger data.

```
--task 6
SELECT flight_id
FROM flights
WHERE act_arrival_time > sch_arrival_time;

--task 7
SELECT first_name,
CASE
  WHEN EXTRACT(YEAR FROM AGE(CURRENT_DATE, date_of_birth)) BETWEEN 18 AND 35 THEN 'Young'
  WHEN EXTRACT(YEAR FROM AGE(CURRENT_DATE, date_of_birth)) BETWEEN 36 AND 55 THEN 'Adult'
  ELSE 'Other'
END AS age_group
FROM passenger;
```

first_name	age_group
Rex	Other
Zondra	Other
Lucille	Other
Olva	Other
Amelina	Other
JerryLee	Other
Arndith	Other
Frans	Other
Aloysia	Other
Ursola	Other

31:1 (292 chars, 6 line breaks) LF UTF-8 4 spaces

Task 8

```
lab1.sql lab2.sql lab3.sql lab4.sql x
--task 8
SELECT price,
CASE
  WHEN price < 100 THEN 'Cheap'
  WHEN price BETWEEN 100 AND 500 THEN 'Medium'
  ELSE 'Expensive'
END AS price_category
FROM booking;
```

Result 9

	price	price_category
1	39151.94	Expensive
2	17798.08	Expensive
3	8014.06	Expensive
4	42054.25	Expensive
5	24858.67	Expensive
6	55925.96	Expensive
7	28718.15	Expensive
8	71452.78	Expensive
9	17613.74	Expensive
10	99446.97	Expensive

Task 9

```
lab1.sql lab2.sql lab3.sql lab4.sql x
--task 9
SELECT airline_country, COUNT(airline_name) AS airline_count
FROM airline
GROUP BY airline_country;
```

Result 10

airline_country	airline_count
Philippines	7
Thailand	1
United States	2
Turkey	1
Nigeria	1
Indonesia	12
Ecuador	1
New Zealand	1
Tajikistan	1
Zimbabwe	1

Task 10

The screenshot shows a database IDE with the following components:

- Database Explorer:** Shows a PostgreSQL database with tables: booking, booking_flight, booking_platform, booking_status, booking_time, booking_type, booking_value, booking_weight, booking_x, booking_y, booking_z, booking_aa, booking_ab, booking_ac, booking_ad, booking_ah, booking_al, booking_ao, booking_ap, booking_aq, booking_ar, booking_at, booking_av, booking_ay, booking_az, booking_ba, booking_bb, booking_bc, booking_bd, booking_be, booking bf, booking_bg, booking_bh, booking_bi, booking_bj, booking_bk, booking_bl, booking_bm, booking_bn, booking_bo, booking_bp, booking bq, booking_br, booking_bs, booking_bt, booking_bv, booking_bw, booking_bx, booking_by, booking_bz, booking_ca, booking_cb, booking_cc, booking_cd, booking_ce, booking_cf, booking_cg, booking_ch, booking_ci, booking_cj, booking_ck, booking_cl, booking_cm, booking_cn, booking_co, booking_cp, booking cq, booking_cr, booking_cs, booking_ct, booking_cv, booking_cw, booking_cx, booking cy, booking_cz, booking_da, booking_db, booking_dc, booking_dd, booking_de, booking_df, booking dg, booking_dh, booking_di, booking_dj, booking_dk, booking_dl, booking_dm, booking_dn, booking do, booking_dp, booking dq, booking_dr, booking_ds, booking_dt, booking_dv, booking_dw, booking_dx, booking dy, booking_dz, booking_ea, booking eb, booking_ec, booking ed, booking_ee, booking ef, booking eg, booking eh, booking ei, booking ej, booking ek, booking el, booking em, booking en, booking eo, booking ep, booking eq, booking er, booking es, booking et, booking ev, booking ew, booking ex, booking ey, booking ez, booking_fa, booking fb, booking fc, booking fd, booking fe, booking ff, booking fg, booking fh, booking fi, booking fj, booking fk, booking fl, booking fm, booking fn, booking fo, booking fp, booking fq, booking fr, booking fs, booking ft, booking fv, booking fw, booking fx, booking fy, booking fz, booking_ga, booking gb, booking gc, booking gd, booking ge, booking gf, booking gg, booking gh, booking gi, booking gj, booking gk, booking gl, booking gm, booking gn, booking go, booking gp, booking gq, booking gr, booking gs, booking gt, booking gv, booking gw, booking gx, booking gy, booking gz, booking_ha, booking hb, booking hc, booking hd, booking he, booking hf, booking hg, booking hh, booking hi, booking hj, booking hk, booking hl, booking hm, booking hn, booking ho, booking hp, booking hq, booking hr, booking hs, booking ht, booking hv, booking hw, booking hx, booking hy, booking_hz, booking_ia, booking ib, booking ic, booking id, booking ie, booking if, booking ig, booking ih, booking ii, booking ij, booking ik, booking il, booking im, booking in, booking io, booking ip, booking iq, booking ir, booking is, booking it, booking iv, booking iw, booking ix, booking iy, booking_iz, booking_ja, booking jb, booking jc, booking jd, booking je, booking_jf, booking_jg, booking_jh, booking_ji, booking_jj, booking_jk, booking_jl, booking_jm, booking_jn, booking_jo, booking jp, booking jq, booking_jr, booking_js, booking_jt, booking_jv, booking_jw, booking_jx, booking_jy, booking_jz, booking_ka, booking kb, booking kc, booking kd, booking ke, booking kf, booking kg, booking kh, booking ki, booking kj, booking_kk, booking_kl, booking_km, booking_kn, booking_ko, booking kp, booking_kq, booking_kr, booking_ks, booking_kt, booking_kv, booking_kw, booking_kx, booking_ky, booking_kz, booking_la, booking lb, booking lc, booking ld, booking le, booking lf, booking lg, booking lh, booking li, booking lj, booking lk, booking ll, booking lm, booking ln, booking lo, booking lp, booking_lq, booking_lr, booking_ls, booking_lt, booking_lv, booking_lw, booking_lx, booking_ly, booking_lz, booking_ma, booking mb, booking mc, booking md, booking me, booking mf, booking mg, booking mh, booking mi, booking mj, booking mk, booking ml, booking mm, booking mn, booking mo, booking mp, booking mq, booking_mr, booking_ms, booking_mt, booking_mv, booking_mw, booking_mx, booking_my, booking_mz, booking_na, booking nb, booking nc, booking nd, booking ne, booking nf, booking ng, booking nh, booking ni, booking nj, booking nk, booking nl, booking nm, booking nn, booking no, booking np, booking_nq, booking_nr, booking_ns, booking_nt, booking_nv, booking_nw, booking_nx, booking ny, booking_nz, booking_oa, booking ob, booking oc, booking od, booking oe, booking of, booking og, booking oh, booking oi, booking oj, booking ok, booking ol, booking om, booking on, booking oo, booking op, booking_oq, booking_or, booking_os, booking_ot, booking_ov, booking_ow, booking_ox, booking_oy, booking_oz, booking_pa, booking pb, booking pc, booking pd, booking pe, booking pf, booking pg, booking ph, booking pi, booking pj, booking pk, booking pl, booking pm, booking pn, booking po, booking pp, booking pq, booking_pr, booking_ps, booking_pt, booking_pv, booking_pw, booking_px, booking_py, booking_pz, booking_qa, booking qb, booking qc, booking qd, booking qe, booking qf, booking qg, booking qh, booking qi, booking qj, booking qk, booking ql, booking_qm, booking_qn, booking_qo, booking_qp, booking_qq, booking_qr, booking_qs, booking_qt, booking_qv, booking_qw, booking_qx, booking_qy, booking_qz, booking_ra, booking rb, booking rc, booking rd, booking re, booking rf, booking rg, booking rh, booking ri, booking_rj, booking rk, booking_rl, booking_rm, booking rn, booking_ro, booking_rp, booking_rq, booking_rr, booking_rs, booking_rt, booking_rv, booking_rw, booking_rx, booking_ry, booking_rz, booking_sa, booking sb, booking sc, booking sd, booking se, booking sf, booking sg, booking sh, booking si, booking sj, booking sk, booking_sl, booking_sm, booking_sn, booking_so, booking_sp, booking_sq, booking_sr, booking_ss, booking_st, booking_sv, booking_sw, booking_sx, booking_sy, booking_sz, booking_ta, booking tb, booking tc, booking td, booking te, booking tf, booking tg, booking th, booking ti, booking tj, booking tk, booking_tl, booking_tm, booking tn, booking to, booking tp, booking_tq, booking_tr, booking_ts, booking_tv, booking_tw, booking_tx, booking_ty, booking_tz, booking_ua, booking ub, booking uc, booking ud, booking ue, booking uf, booking ug, booking uh, booking ui, booking uj, booking uk, booking ul, booking um, booking un, booking_uo, booking_up, booking_uq, booking_ur, booking_us, booking_ut, booking_uv, booking_uw, booking_ux, booking_uy, booking_uz, booking_va, booking vb, booking vc, booking vd, booking ve, booking vf, booking vg, booking vh, booking vi, booking_vj, booking_vk, booking_vl, booking_vm, booking_vn, booking_vo, booking_vp, booking_vq, booking_vr, booking_vs, booking_vt, booking_vv, booking_vw, booking_vx, booking_vy, booking_vz, booking_wa, booking wb, booking wc, booking wd, booking we, booking wf, booking wg, booking wh, booking wi, booking_wj, booking_wk, booking_wl, booking_wm, booking_wn, booking_wo, booking_wp, booking_wq, booking_wr, booking_ws, booking_wt, booking_wv, booking_wx, booking_wy, booking_wz, booking_xa, booking xb, booking xc, booking xd, booking xe, booking xf, booking_xg, booking_xh, booking_xi, booking_xj, booking_xk, booking_xl, booking_xm, booking_xn, booking_xo, booking_xp, booking_xq, booking_xr, booking_xs, booking_xt, booking_xv, booking_xw, booking_xx, booking_xy, booking_xz, booking_ya, booking_yb, booking yc, booking_yd, booking ye, booking_yf, booking_yg, booking_yh, booking_yi, booking_yj, booking_yk, booking_yl, booking_ym, booking_yn, booking_yo, booking_yp, booking_yq, booking_yr, booking_ys, booking_yt, booking_yv, booking_yw, booking_yx, booking_yy, booking_yz, booking_za, booking_zb, booking_zc, booking_zd, booking_ze, booking_zf, booking_zg, booking_zh, booking_zi, booking_zj, booking_zk, booking_zl, booking_zm, booking_zn, booking_zo, booking_zp, booking_zq, booking_zr, booking_zs, booking_zt, booking_zv, booking_zw, booking_zx, booking_zy, booking_zz.

- SQL Editor:** Contains the following SQL queries:

```
43 WHEN price BETWEEN 100 AND 500 THEN 'Medium'
44 ELSE 'Expensive'
45 END AS price_category
46 FROM booking;

--task 9
48 SELECT airline_country, COUNT(airline_name) AS airline_count
49 FROM airline
50 GROUP BY airline_country;

--task 10
53 SELECT flight_id, act_arrival_time, sch_arrival_time
54 FROM flights
55 WHERE act_arrival_time > sch_arrival_time;
```
- Output:** Shows the results of the last query (Task 10) with 49 rows. The columns are flight_id, act_arrival_time, and sch_arrival_time.
- Services:** Shows the database connection details: postgres@localhost, lab4, 104 ms.

flight_id	act_arrival_time	sch_arrival_time
1	2024-03-17 00:00:00.000000	2024-01-18 00:00:00.000000
2	2024-09-12 00:00:00.000000	2024-06-11 00:00:00.000000
3	2024-09-15 00:00:00.000000	2024-06-16 00:00:00.000000
4	2024-06-03 00:00:00.000000	2024-01-16 00:00:00.000000
9	2024-01-21 00:00:00.000000	2023-10-22 00:00:00.000000
12	2024-07-02 00:00:00.000000	2024-03-08 00:00:00.000000
13	2024-06-25 00:00:00.000000	2023-09-27 00:00:00.000000
15	2024-08-26 00:00:00.000000	2024-05-05 00:00:00.000000
16	2024-01-10 00:00:00.000000	2023-11-28 00:00:00.000000
19	2024-05-15 00:00:00.000000	2023-10-11 00:00:00.000000