

```

-- 1) Agencies who are generating the highest revenues
SELECT
    a.agency_id,
    a.agency_name,
    ROUND((COALESCE(SUM(combined.total_amount), 0))::numeric, 2) AS total_revenue
FROM
    agency a
LEFT JOIN
    services s ON a.agency_id = s.agency_id
LEFT JOIN (
    SELECT
        tb.service_id, b.total_amount
    FROM
        transport_booking tb
    JOIN
        bookings b ON tb.booking_id = b.booking_id

    UNION ALL

    SELECT
        ab.service_id, b.total_amount
    FROM
        accommodation_booking ab
    JOIN
        bookings b ON ab.booking_id = b.booking_id
) AS combined ON s.service_id = combined.service_id
GROUP BY
    a.agency_id, a.agency_name
ORDER BY total_revenue DESC
LIMIT 5;

```

	agency_id [PK] integer	agency_name character varying (100)	total_revenue numeric
1	202	GlobeTrotters	68520.80
2	203	IRCTC	16385.39
3	201	TravelPro	959.80
4	207	TripMasters	499.95
5	215	GlobalGate	99.99



```

-- 2) Commission earned from each agency
SELECT
    a.agency_id,
    a.agency_name,
    ROUND((COALESCE(SUM(combined.total_amount) * (a.commission_rate / 100), 0))::numeric, 2) AS total_commission
FROM
    agency a
LEFT JOIN
    services s ON a.agency_id = s.agency_id
LEFT JOIN (
    SELECT
        tb.service_id, b.total_amount
    FROM
        transport_booking tb
    JOIN
        bookings b ON tb.booking_id = b.booking_id

    UNION ALL

    SELECT
        ab.service_id, b.total_amount
    FROM
        accommodation_booking ab
    JOIN
        bookings b ON ab.booking_id = b.booking_id
) AS combined ON s.service_id = combined.service_id
GROUP BY
    a.agency_id, a.agency_name, a.commission_rate
HAVING
    SUM(combined.total_amount) > 0
ORDER BY total_commission DESC;

```

	agency_id [PK] integer 	agency_name character varying (100) 	total_commission numeric 
1	202	GlobeTrotters	5180.17
2	203	IRCTC	1092.91
3	201	TravelPro	43.67
4	207	TripMasters	35.15
5	215	GlobalGate	7.21






```

-- 3) number of monthly bookings of all services
WITH all_bookings AS (
    SELECT
        DATE_TRUNC('month', tb.journey_date) AS month,
        s.service_name AS type
    FROM
        transport_booking tb
    JOIN
        services s ON tb.service_id = s.service_id

    UNION ALL

    SELECT
        DATE_TRUNC('month', ab.check_in_date),
        'hotel' AS type
    FROM
        accommodation_booking ab
)
SELECT
    TO_CHAR(month, 'YYYY-MM') AS booking_month,
    COUNT(*) FILTER (WHERE type = 'flight') AS flight_bookings,
    COUNT(*) FILTER (WHERE type = 'train') AS train_bookings,
    COUNT(*) FILTER (WHERE type = 'bus') AS bus_bookings,
    COUNT(*) FILTER (WHERE type = 'hotel') AS hotel_bookings
FROM
    all_bookings
GROUP BY month
ORDER BY month;

```

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	booking_month text	flight_bookings bigint	train_bookings bigint	bus_bookings bigint	hotel_bookings bigint	
1	2024-07	0	0	0	1	
2	2024-11	2	2	2	2	
3	2024-12	1	1	0	1	
4	2025-04	1	0	0	1	
5	2025-05	1	0	0	0	

```
-- 4) transport booking details of all users
SELECT
    u.first_name || ' ' || u.last_name AS user_name,
    b.booking_id,
    tb.journey_date,
    dl.city AS from_city,
    al.city AS to_city,
    b.total_amount,
    tb.ticket_no,
    s.service_name,
    ag.agency_name
FROM
    users u
JOIN
    bookings b ON u.user_id = b.user_id
JOIN
    transport_booking tb ON b.booking_id = tb.booking_id
JOIN
    services s ON tb.service_id = s.service_id
JOIN
    agency ag ON s.agency_id = ag.agency_id
JOIN
    location dl ON tb.departure_location_id = dl.location_id
JOIN
    location al ON tb.arrival_location_id = al.location_id;
```

	user_name text	booking_id integer	journey_date date	from_city character varying (100)	to_city character varying (100)	total_amount double precision	ticket_no character varying (20)	service_name character varying (50)	agency_name character varying (100)
1	Joeann Alphege	3	2025-04-09	Phoenix	San Francisco	13600.8	TCKT008	flight	GlobeTrotters
2	Lyda Gillham	4	2025-05-16	London	Dublin	18000	TCKT009	flight	GlobeTrotters
3	Milty Breznovic	5	2024-11-01	Ahmedabad	Dahod	264	TCKT010	bus	TravelPro
4	Myranda Jorin	6	2024-11-02	Vadodra	Jamnagar	749.59	TCKT011	train	IRCTC
5	Arlen Di Batista	7	2024-11-03	Phoenix	Los Angeles	16000	TCKT012	flight	GlobeTrotters
6	Ozzy Rapport	8	2024-11-04	Surat	Rajkot	700	TCKT013	bus	GlobeTrotters
7	Stella Peele	9	2024-11-05	Ahmedabad	Rajkot	545.8	TCKT014	train	TravelPro
8	Emlynne Hiddsl...	10	2024-11-06	London	Dublin	15499	TCKT015	flight	IRCTC
9	Alice Wonderland	11	2024-12-01	New York	Los Angeles	20000	TCKT016	flight	GlobeTrotters
10	Bob Builder	12	2024-12-05	Ahmedabad	Rajkot	136.8	TCKT017	train	IRCTC

```
-- 5) users with highest money spent on services
SELECT
    user_id,
    COUNT(booking_id) AS total_booking,
    SUM(total_amount) AS total_money_spent
FROM
    bookings
GROUP BY
    user_id
ORDER BY
    total_money_spent DESC;
```

	user_id integer	total_booking bigint	total_money_spent double precision
1	111	2	20099.99
2	104	1	18000
3	107	1	16000
4	110	1	15499
5	103	1	13600.8
6	106	1	749.59
7	108	1	700
8	109	1	545.8
9	102	2	519.97
10	101	2	349.98
11	105	1	264
12	112	1	136.8

```
-- 6) Find top 3 locations with highest number of accommodation bookings
SELECT
    ab.location_id, l.city, l.country, COUNT(*) as booking_count
FROM
    accommodation_booking ab
JOIN
    location l ON ab.location_id = l.location_id
GROUP BY ab.location_id, l.city, l.country
ORDER BY booking_count DESC
LIMIT 3;
```

	location_id character varying (20)	city character varying (100)	country character varying (100)	booking_count bigint
1	PHX	Phoenix	USA	2
2	AMD	Ahmedabad	India	1
3	MIA	Miami	USA	1

```
-- 7) month with highest number of transport_bookings
SELECT
    TO_CHAR(journey_date, 'MM') AS booking_month,
    COUNT(*) AS total_bookings
FROM
    transport_booking
GROUP BY
    booking_month
ORDER BY
    total_bookings DESC;
```

	booking_month text	total_bookings bigint
1	11	6
2	12	2
3	04	1
4	05	1

```
-- 8) Users who have booked flights with price higher than avg price
WITH avg_flight_price AS (
    SELECT AVG(price) AS avg_price
    FROM flight_class
)
SELECT DISTINCT
    u.user_id,
    u.first_name || ' ' || u.last_name AS name,
    b.total_amount
FROM
    users u
JOIN
    bookings b ON u.user_id = b.user_id
JOIN
    transport_booking tb ON b.booking_id = tb.booking_id
JOIN
    flight_info fi ON tb.service_id = fi.service_id
CROSS JOIN
    avg_flight_price afp
WHERE
    b.total_amount > afp.avg_price;
```

	user_id integer 🔒	name text 🔒	total_amount double precision 🔒
1	111	Alice Wonderl...	20000
2	103	Joeann Alphe...	13600.8
3	110	Emlynn Hidd...	15499
4	104	Lyda Gillham	18000
5	107	Arlen Di Batista	16000

```
-- 9) Query to find services from cityA to cityB
SELECT
    transport_id,
    transport_type,
    departure_time,
    arrival_time,
    departure_day,
    arrival_day
FROM (
    -- Bus Routes
    SELECT
        t1.bus_id AS transport_id,
        'bus' AS transport_type,
        t1.departure_time,
        t2.arrival_time,
        t1.day AS departure_day,
        t2.day AS arrival_day
    FROM
        bus t1
    JOIN bus t2
        ON t1.bus_id = t2.bus_id
        AND t1.trip_code = t2.trip_code
    WHERE
        t1.stand_id = 'AMD'
        AND t2.stand_id = 'RAJ'
        AND (t1.day < t2.day OR t1.departure_time < t2.arrival_time)

    UNION ALL
```

```

UNION ALL

-- Train Routes
SELECT
    t1.train_id AS transport_id,
    'train' AS transport_type,
    t1.departure_time,
    t2.arrival_time,
    t1.day AS departure_day,
    t2.day AS arrival_day
FROM
    train t1
JOIN train t2
    ON t1.train_id = t2.train_id
    AND t1.trip_code = t2.trip_code
WHERE
    t1.station_id = 'AMD'
    AND t2.station_id = 'RAJ'
    AND (t1.day < t2.day OR t1.departure_time < t2.arrival_time)

UNION ALL

-- Flight Routes
SELECT
    t1.flight_code AS transport_id,
    'flight' AS transport_type,
    t1.departure_time,
    t2.arrival_time,
    t1.day AS departure_day,
    t2.day AS arrival_day
FROM
    flight t1
JOIN flight t2
    ON t1.flight_code = t2.flight_code
    AND t1.trip_code = t2.trip_code
WHERE
    t1.airport_code = 'AMD'
    AND t2.airport_code = 'RAJ'
    AND (t1.day < t2.day OR t1.departure_time < t2.arrival_time)
) AS combined_transport;

```

	transport_id character varying	transport_type text	departure_time time with time zone	arrival_time time with time zone	departure_day integer	arrival_day integer
1	GJ18Z8843	bus	00:35:00+05:30	04:45:00+05:30	1	1
2	22959	train	17:35:00+05:30	21:44:00+05:30	1	1
3	22925	train	18:10:00+05:30	21:03:00+05:30	1	1
4	22960	train	17:50:00+05:30	22:00:00+05:30	1	1
5	22926	train	19:10:00+05:30	22:03:00+05:30	1	1

```

-- 10) find full route of bus/train/flight with given id
SELECT
    *
FROM
    bus
WHERE bus_id = 'GJ18Z9013'
ORDER BY day ASC, arrival_time ASC;

```



	bus_id [PK] character varying (20)	stand_id [PK] character varying (20)	trip_code [PK] character varying (50)	arrival_time time with time zone	departure_time time with time zone	day integer
1	GJ18Z9013	SUR	1251SRTSMNHEXP61	14:00:00+05:30	14:05:00+05:30	1
2	GJ18Z9013	BRC	1251SRTSMNHEXP61	17:00:00+05:30	17:10:00+05:30	1
3	GJ18Z9013	RAJ	1251SRTSMNHEXP61	23:00:00+05:30	23:10:00+05:30	1
4	GJ18Z9013	JND	1251SRTSMNHEXP61	03:00:00+05:30	03:10:00+05:30	2
5	GJ18Z9013	KSD	1251SRTSMNHEXP61	04:00:00+05:30	04:10:00+05:30	2
6	GJ18Z9013	VRL	1251SRTSMNHEXP61	05:00:00+05:30	05:10:00+05:30	2
7	GJ18Z9013	SMNH	1251SRTSMNHEXP61	06:00:00+05:30	06:00:00+05:30	2

```
-- 11) locations of agencies
SELECT DISTINCT
  a.agency_name,
  a.agency_email,
  a.agency_website,
  p.postal_code,
  ad.local_address,
  l.city,
  l.country
FROM agency a
JOIN address ad ON a.agency_id = ad.agency_id
JOIN postal p ON ad.postal_code = p.postal_code
JOIN location l ON p.location_id = l.location_id;
```

	agency_name character varying (100)	agency_email character varying (100)	agency_website character varying (100)	postal_code integer	local_address character varying (200)	city character varying (100)	country character varying (100)
1	GlobalGate	info@globalgate.com	www.globalgate.com	147598	81570 Butterfield Lane	New York	USA
2	RoadRunners	support@roadrunners.com	www.roadrunners.com	145691	821 Westerfield Park	Ahmedabad	India
3	GlobeTrotters	info@globetrotters.com	www.globetrotters.com	360001	3 Vera Pass	Rajkot	India
4	IRCTC	support@irctc.com	www.irctc.com	360002	0399 Toban Avenue	Surat	India
5	ExpeditionX	info@expeditionx.com	www.expeditionx.com	123456	8 Gerald Plaza	Vadodra	India
6	JourneyWise	contact@journeywise.com	www.journeywise.com	245187	4584 High Crossing Point	Phoenix	USA
7	JetSetGo	hello@jetsetgo.com	www.jetsetgo.com	145691	988 Independence Alley	Ahmedabad	India
8	HolidayHub	info@holidayhub.com	www.holidayhub.com	349825	41 School Junction	Surendranagar	India
9	TravelPro	contact@travelpro.com	www.travelpro.com	123456	81 Menomonie Trail	Vadodra	India
10	TripMasters	support@tripmasters.com	www.tripmasters.com	235691	3 Warner Pass	Istanbul	Turkey
11	CityExplorers	contact@cityexplorers.com	www.cityexplorers.com	147598	48 Lien Hill	New York	USA
12	SkyHigh	hello@skyhigh.com	www.skyhigh.com	145691	76 Hermina Lane	Ahmedabad	India
13	Wanderlust	hello@wanderlust.com	www.wanderlust.com	528672	38 Sloan Terrace	Beijing	China
14	EcoTravel	contact@ecotravel.com	www.ecotravel.com	360002	452 Shelley Pass	Surat	India
15	UrbanTrips	info@urbantrips.com	www.urbantrips.com	360001	0 Summer Ridge Pass	Rajkot	India

```
-- 12) Cheapest trip between two locations
SELECT
    service_type,
    MIN(price) AS cheapest_price,
    currency
FROM (

    SELECT
        'bus' AS service_type,
        bc.price,
        bc.currency
    FROM
        bus_class bc
    JOIN
        bus_info bi ON bc.bus_id = bi.bus_id
    JOIN
        bus b1 ON bi.bus_id = b1.bus_id
    JOIN
        bus b2 ON b1.trip_code = b2.trip_code
    WHERE
        b1.stand_id = 'AMD'
        AND b2.stand_id = 'RAJ'
        AND (b1.day < b2.day OR (b1.day = b2.day AND b1.departure_time < b2.arrival_time))

    UNION ALL
```

```
SELECT
    'train' AS service_type,
    tc.price,
    tc.currency
FROM
    train_class tc
JOIN
    train_info ti ON tc.train_id = ti.train_id
JOIN
    train t1 ON ti.train_id = t1.train_id
JOIN
    train t2 ON t1.trip_code = t2.trip_code
WHERE
    t1.station_id = 'AMD'
    AND t2.station_id = 'RAJ'
    AND (t1.day < t2.day OR (t1.day = t2.day AND t1.departure_time < t2.arrival_time))

UNION ALL
```

```

SELECT
    'flight' AS service_type,
    fc.price,
    fc.currency
FROM
    flight_class fc
JOIN
    flight_info fi ON fc.flight_code = fi.flight_code
JOIN
    flight f1 ON fi.flight_code = f1.flight_code
JOIN
    flight f2 ON f1.trip_code = f2.trip_code
WHERE
    f1.airport_code = 'AMD'
    AND f2.airport_code = 'RAJ'
    AND (f1.day < f2.day OR (f1.day = f2.day AND f1.departure_time < f2.arrival_time))
) AS all_services
GROUP BY service_type, currency
ORDER BY cheapest_price
LIMIT 1;

```

	service_type text	cheapest_price double precision	currency character varying (20)
1	train	136.8	Rupees