

SQL QUERIES FOR HOSPITALITY PROJECT

```
USE PROJECT;
select * from dim_date;
select * FROM dim_hotels;
select * from dim_rooms;
select * from fact_bookings;
select * from fact_aggbookings;

-----/* REVENUE */
CREATE VIEW REVENUE AS
SELECT CONCAT(SUM(revenue_realized)," Rs.") AS REVENUE FROM FACT_BOOKINGS;

-----/* TOTAL BOOKINGS */
CREATE VIEW TOTAL_BOOKINGS AS
SELECT BOOKING_STATUS,COUNT(booking_id) AS TOTAL_BOOKINGS FROM
FACT_BOOKINGS
GROUP BY BOOKING_STATUS;

SELECT BOOKING_STATUS,COUNT(booking_id) FROM FACT_BOOKINGS
GROUP BY BOOKING_STATUS;

-----/* TOTAL CAPACITY */
CREATE VIEW TOTAL_CAPACITY AS
SELECT SUM(CAPACITY) AS TOTAL_CAPACITY FROM FACT_AGGBOOKINGS;

-----/* AVERAGE RATING*/
CREATE VIEW AVERAGE_RATING AS
SELECT ROUND(AVG(ratings_given),2) AS AVERAGE_RATING FROM FACT_BOOKINGS
WHERE ratings_given <> "" AND RATINGS_GIVEN IS NOT NULL;

-----/* NO. OF DAYS*/
CREATE VIEW NUMBER_OF_DAYS AS
SELECT DISTINCT(COUNT(DATE)) AS NUMBER_OF_DAYS FROM DIM_DATE;

-----/* Total cancelled bookings */
select * from fact_bookings;

CREATE VIEW TOTAL_CANCELLED_BOOKINGS AS
SELECT COUNT(booking_status) AS TOTAL_CANCELLED_BOOKINGS FROM
FACT_BOOKINGS
WHERE booking_status="Cancelled";
```

```
/* Total CHECKED OUT */
CREATE VIEW TOTAL_CHECKED_OUTS AS
SELECT COUNT(booking_status) AS TOTAL_CHECKED_OUT FROM FACT_BOOKINGS
WHERE booking_status="Checked Out";
```

```
/* Total NO SHOW */
CREATE VIEW TOTAL_NO_SHOWS AS
SELECT COUNT(booking_status) AS TOTAL_NO_SHOW FROM FACT_BOOKINGS
WHERE booking_status="NO SHOW";
```

```
/* CANCELLATION RATE */
CREATE VIEW CANCELLATION_RATE AS
with ctec as(
SELECT COUNT(booking_status) AS TOTC FROM FACT_BOOKINGS
WHERE BOOKING_STATUS="CANCELLED"
), CTET AS(
SELECT COUNT(BOOKING_ID) AS TOT FROM FACT_BOOKINGS
)
SELECT CONCAT(ROUND((SELECT * FROM CTEC)/(SELECT * FROM CTET)*100,2)," %")
AS CANCELLATION_RATE;
```

```
/* NO SHOW RATE*/
CREATE VIEW NO_SHOW_RATE AS
with ctetN as(
SELECT COUNT(booking_status) AS TOTC FROM FACT_BOOKINGS
WHERE BOOKING_STATUS="NO SHOW"
), CTENT AS(
SELECT COUNT(BOOKING_ID) AS TOT FROM FACT_BOOKINGS
)
SELECT CONCAT(ROUND((SELECT * FROM CTEN)/(SELECT * FROM CTENT)*100,2)," %")
AS NOSHOW_RATE;
```

```
/* ADR */
CREATE VIEW ADR AS
WITH REV AS(
SELECT SUM(revenue_realized) AS REVENUE FROM FACT_BOOKINGS
), TB AS(
SELECT COUNT(booking_id) AS TOTAL_BOOKINGS FROM FACT_BOOKINGS
)
SELECT CONCAT(ROUND((SELECT * FROM REV)/(SELECT * FROM TB),0)," RS") AS
ADR;
```

```
/* REVPAR */
```

```
CREATE VIEW REV_PAR AS
WITH REVPAR AS(
SELECT SUM(revenue_realized) AS R FROM FACT_BOOKINGS
), TC AS(
SELECT SUM(CAPACITY) AS C FROM FACT_AGGBOOKINGS
)
SELECT CONCAT(ROUND((SELECT * FROM REVPAR)/(SELECT * FROM TC),0)," RS") AS
REVPAR;
```

```
/*REALISATION RATE */
DROP VIEW REALISATION_RATE;
CREATE VIEW REALISATION_RATE AS
with CTECHOUT as(
SELECT COUNT(booking_status) AS TOTC FROM FACT_BOOKINGS
WHERE BOOKING_STATUS="CHECKED OUT"
), CTETOTAL AS(
SELECT COUNT(BOOKING_ID) AS TOT FROM FACT_BOOKINGS
)
SELECT CONCAT(ROUND((SELECT * FROM CTECHOUT) /(SELECT * FROM
CTETOTAL)*100,2)," %") AS REALISATION_RATE;
```

```
SELECT COUNT(DISTINCT (BOOKING_PLATFORM)) AS BOKKING_PLATFORMS FROM
FACT_BOOKINGS;
select BOOKING_PLATFORM,COUNT(BOOKING_ID) AS BOOKINGS,
COUNT(BOOKING_ID) OVER(ROWS BETWEEN UNBOUNDED PRECEDING AND
UNBOUNDED FOLLOWING) AS TOTAL from fact_bookings
GROUP BY BOOKING_PLATFORM;
```

```
/* BOOKINGS % BY BOOKING_PLATFORMS */
CREATE VIEW PERCENTAGE_BOOKINGS_BY_BOOKING_PLATFORMS AS
SELECT
booking_platform,
bookings,
SUM(bookings) OVER () AS total_bookings,
CONCAT(ROUND(100.0 * bookings / SUM(bookings) OVER (), 2)," %") AS pct_of_total
FROM (
SELECT booking_platform,
COUNT(*) AS bookings
FROM fact_bookings
GROUP BY booking_platform
) AS grp;
```

```
/* BOOKINGS % BY ROOM CLASS */
select * from fact_bookings;
```

```

CREATE VIEW PERCENTAGE_BOOKINGS_BY_ROOM_CATEGORY AS
SELECT
  ROOM_CATEGORY,
  bookings,
  SUM(bookings) OVER () AS total_bookings,
  CONCAT(ROUND(100.0 * bookings / SUM(bookings) OVER (), 2), " %") AS pct_of_total
FROM (SELECT ROOM_CATEGORY,COUNT(BOOKING_ID) AS BOOKINGS FROM
FACT_BOOKINGS
GROUP BY ROOM_CATEGORY) AS GROUP_;

-----
SELECT * FROM FACT_BOOKINGS;
/* WOW CHANGE IN REVENUE */

WITH CTECW AS(
SELECT DISTINCT WEEK(CHECK_IN_DATE)AS WEEKNO,COUNT(BOOKING_ID) AS
BOOKINGS)
  GROUP BY WEEK(CHECK_IN_DATE)
,CTENW AS (
LEAD(COUNT(BOOKING_ID)) OVER() AS NEXT_VALUE FROM FACT_BOOKINGS
GROUP BY WEEK(CHECK_IN_DATE))
SELECT(SELECT * FROM CTEW)/(SELECT * FROM CTENW)

WITH CTEWOW(
SELECT DISTINCT WEEK(CHECK_IN_DATE)AS WEEKNO,COUNT(BOOKING_ID) AS
BOOKINGS,
LEAD(COUNT(BOOKING_ID)) OVER() AS NEXT_VALUE
FROM FACT_BOOKINGS
GROUP BY WEEK(CHECK_IN_DATE)
)
SELECT * FROM CTEWOW
GROUP BY WEEKNO;

-----
/* WEEK OVER WEEK CHANGE REVENUE*/
CREATE VIEW WOW_REVENUE AS
WITH CTEWOW AS (
  SELECT
    WEEK(CHECK_IN_DATE, 1) AS WEEKNO,
    COUNT(BOOKING_ID) AS BOOKINGS
  FROM FACT_BOOKINGS
  GROUP BY WEEK(CHECK_IN_DATE, 1)
)
SELECT
  WEEKNO,
  BOOKINGS,
  LEAD(BOOKINGS) OVER (ORDER BY WEEKNO) AS NEXT_VALUE,
  CONCAT(ROUND((BOOKINGS/LEAD(BOOKINGS) OVER (ORDER BY WEEKNO))*100,2)," %") AS WOW_REV_CHANGE_
FROM CTEWOW;

```

```
-----  
/* FLITER REVENUE WISE */  
select distinct property_name from dim_hotels;  
select *from FACT_BOOKINGS;  
  
SELECT * FROM DIM_HOTELS JOIN FACT_BOOKINGS ON  
DIM_HOTELS.PROPERTY_ID = FACT_BOOKINGS.PROPERTY_ID;  
  
/* city wise revenu */  
SELECT DIM_HOTELS.CITY,CONCAT(SUM(FACT_BOOKINGS.REVENUE_REALIZED), " Rs.") AS REVENUE FROM DIM_HOTELS JOIN FACT_BOOKINGS ON  
DIM_HOTELS.PROPERTY_ID = FACT_BOOKINGS.PROPERTY_ID  
GROUP BY DIM_HOTELS.CITY;  
  
/* propert name wise */  
SELECT dim_hotels.property_name AS  
PROPERTY_NAME,concat(sum(fact_bookings.revenue_realized)," Rs.") as REVENUE  
FROM DIM_HOTELS JOIN FACT_BOOKINGS ON  
DIM_HOTELS.PROPERTY_ID = FACT_BOOKINGS.PROPERTY_ID  
group by dim_hotels.property_name;  
  
SELECT * FROM DIM_ROOMS JOIN FACT_BOOKINGS ON  
DIM_ROOMS.ROOM_ID = FACT_BOOKINGS.ROOM_CATEGORY;  
  
/* room class wise revenue */  
SELECT  
DIM_ROOMS.ROOM_CLASS,CONCAT(SUM(FACT_BOOKINGS.REVENUE_REALIZED)," Rs.") AS REVENUE FROM DIM_ROOMS JOIN FACT_BOOKINGS ON  
DIM_ROOMS.ROOM_ID = FACT_BOOKINGS.ROOM_CATEGORY  
GROUP BY DIM_ROOMS.ROOM_CLASS;  
  
/* booking platform wise revenue */  
  
SELECT booking_platform,CONCAT(sum(revenue_realized)," Rs.") as REVENUE FROM  
FACT_BOOKINGS  
GROUP BY BOOKING_PLATFORM;  
  
-----  
/* FILTER BOOKINGS WIESE */  
  
SELECT * FROM DIM_HOTELS JOIN FACT_AGGBOOKINGS ON  
DIM_HOTELS.PROPERTY_ID = FACT_AGGBOOKINGS.PROPERTY_ID;
```

```

SELECT DIM_HOTELS.CITY,SUM(FACT_AGGBOOKINGS.successful_bookings) AS
BOOKINGS FROM DIM_HOTELS JOIN FACT_AGGBOOKINGS ON
DIM_HOTELS.PROPERTY_ID = FACT_AGGBOOKINGS.PROPERTY_ID
GROUP BY DIM_HOTELS.CITY;

SELECT DIM_HOTELS.CATEGORY,SUM(FACT_AGGBOOKINGS.successful_bookings)
AS BOOKINGS FROM DIM_HOTELS JOIN FACT_AGGBOOKINGS ON
DIM_HOTELS.PROPERTY_ID = FACT_AGGBOOKINGS.PROPERTY_ID
GROUP BY DIM_HOTELS.CATEGORY;

SELECT DIM_ROOMS.ROOM_CLASS,
SUM(FACT_AGGBOOKINGS.successful_bookings) AS BOOKINGS FROM DIM_ROOMS
JOIN FACT_AGGBOOKINGS ON
DIM_ROOMS.ROOM_ID = FACT_AGGBOOKINGS.room_category
GROUP BY ROOM_CLASS;

/* FLITER SECTION */

/* REVENUE AND BOOKINGS : FILTERS : CITY | PROPERTY NAME | ROOM CLASS */

DELIMITER $$

CREATE FUNCTION ROOMCLASSREV(CATEGORY VARCHAR(100))
RETURNS VARCHAR(255)
DETERMINISTIC
BEGIN
    DECLARE totalRevenue BIGINT;

    SELECT SUM(B.REVENUE_REALIZED)
    INTO totalRevenue
    FROM fact_bookings B
    JOIN DIM_ROOMS R
        ON B.ROOM_CATEGORY = R.ROOM_ID
    WHERE R.ROOM_CLASS = CATEGORY;

    RETURN CONCAT(totalRevenue, ' Rs.');
END $$

DELIMITER ;
/*-----*/
SELECT * FROM DIM_HOTELS;
SELECT * FROM DIM_ROOMS;
SELECT * FROM fact_AGGbookings;

DELIMITER $$

CREATE FUNCTION CITYREV(CITY VARCHAR(100))
RETURNS VARCHAR(255)
DETERMINISTIC
BEGIN
    DECLARE totalRevenue BIGINT;

```

```

SELECT SUM(B.REVENUE_REALIZED)
INTO totalRevenue
FROM fact_bookings B
JOIN DIM_HOTELS H
ON B.property_id = H.property_id
WHERE H.CITY = CITY;

RETURN CONCAT(totalRevenue, ' Rs.');
END $$

DELIMITER ;
/*-----*/
DELIMITER $$

CREATE FUNCTION PROPREV(PROPERTY_NAME VARCHAR(255))
RETURNS VARCHAR(255)
DETERMINISTIC
BEGIN
DECLARE totalRevenue BIGINT;

SELECT SUM(B.REVENUE_REALIZED)
INTO totalRevenue
FROM fact_bookings B
JOIN DIM_HOTELS H
ON B.property_id = H.property_id
WHERE H.PROPERTY_NAME = PROPERTY_NAME;

RETURN CONCAT(totalRevenue, ' Rs.');
END $$

DELIMITER ;
/*-----*/
/* BOOKINGS */

SELECT * FROM DIM_HOTELS;
SELECT * FROM DIM_HOTELS JOIN fact_aggbookings ON
DIM_HOTELS.PROPERTY_ID=fact_aggbookings.PROPERTY_ID;

SELECT DIM_HOTELS.CITY,SUM(FACT_AGGBOOKINGS.successful_bookings) AS
BOOKINGS FROM DIM_HOTELS JOIN fact_aggbookings ON
DIM_HOTELS.PROPERTY_ID=fact_aggbookings.PROPERTY_ID
GROUP BY DIM_HOTELS.CITY;

DELIMITER $$

CREATE FUNCTION CITY_BOOKINGS(CITY VARCHAR(100))
RETURNS VARCHAR(255)
DETERMINISTIC
BEGIN
DECLARE BOOKINGS BIGINT;

```

```

SELECT SUM(B.successful_bookings)
INTO BOOKINGS
FROM fact_AGGbookings B
JOIN DIM_HOTELS H
  ON B.PROPERTY_ID = H.PROPERTY_ID
WHERE H.CITY = CITY;

RETURN BOOKINGS;
END $$

DELIMITER ;

/*-----*/
SELECT * FROM DIM_ROOMS;
SELECT * FROM fact_aggbookings;

DELIMITER $$
CREATE FUNCTION ROOMCLASS_BOOKINGS(ROOM_CLASS VARCHAR(100))
RETURNS VARCHAR(255)
DETERMINISTIC
BEGIN
  DECLARE BOOKINGS BIGINT;

  SELECT SUM(B.successful_bookings)
  INTO BOOKINGS
  FROM fact_AGGbookings B
  JOIN DIM_ROOMS R
    ON B.room_category = R.ROOM_ID
  WHERE R.ROOM_CLASS = ROOM_CLASS;

  RETURN BOOKINGS;
END $$

DELIMITER ;

/*-----*/
SELECT H.property_name,SUM(B.successful_bookings) AS BOOKINGS FROM
DIM_HOTELS H JOIN fact_aggbookings B ON
H.PROPERTY_ID=B.PROPERTY_ID
GROUP BY H.property_name;

DELIMITER $$
CREATE FUNCTION PROP_BOOKINGS(PROPERTY_NAME VARCHAR(255))
RETURNS VARCHAR(255)
DETERMINISTIC
BEGIN
  DECLARE BOOKINGS BIGINT;

  SELECT SUM(B.successful_bookings)

```

```

INTO BOOKINGS
FROM fact_AGGbookings B
JOIN DIM_HOTELS H
ON B.PROPERTY_ID = H.PROPERTY_ID
WHERE H.property_name = PROPERTY_NAME;

RETURN BOOKINGS;
END $$

DELIMITER ;
/*-----*/
/* EXTRA POINTERS */

/* 1. MOST / LEAST BOOKED CITY | PROPERTY*/

SELECT * FROM DIM_HOTELS;
SELECT
DIM_HOTELS.CITY,DIM_HOTELS.PROPERTY_NAME,FACT_BOOKINGS.PROPERTY_ID,C
OUNT(FACT_BOOKINGS.property_id) AS BOOKINGS FROM FACT_BOOKINGS JOIN
DIM_HOTELS ON
DIM_HOTELS.PROPERTY_ID=FACT_BOOKINGS.PROPERTY_ID
GROUP BY property_id
ORDER BY COUNT(property_id) DESC
LIMIT 1;

/* 2. LEAST BOOKED CITY | PROPERTY*/
SELECT
DIM_HOTELS.CITY,DIM_HOTELS.PROPERTY_NAME,FACT_BOOKINGS.PROPERTY_ID,C
OUNT(FACT_BOOKINGS.property_id) AS BOOKINGS FROM FACT_BOOKINGS JOIN
DIM_HOTELS ON
DIM_HOTELS.PROPERTY_ID=FACT_BOOKINGS.PROPERTY_ID
GROUP BY property_id
ORDER BY COUNT(property_id)
LIMIT 1;

/*-----*/
/* 1. MOST / LEAST REVENUE CREATING CITY | PROPERTY*/
SELECT
DIM_HOTELS.CITY,DIM_HOTELS.PROPERTY_NAME,FACT_BOOKINGS.PROPERTY_ID,
CONCAT(SUM(FACT_BOOKINGS.REVENUE_REALIZED)," Rs.") AS REVENUE
FROM FACT_BOOKINGS JOIN DIM_HOTELS ON
DIM_HOTELS.PROPERTY_ID=FACT_BOOKINGS.PROPERTY_ID
GROUP BY property_id
ORDER BY SUM(FACT_BOOKINGS.REVENUE_REALIZED) DESC
LIMIT 1;

SELECT
DIM_HOTELS.CITY,DIM_HOTELS.PROPERTY_NAME,FACT_BOOKINGS.PROPERTY_ID,
CONCAT(SUM(FACT_BOOKINGS.REVENUE_REALIZED)," Rs.") AS REVENUE
FROM FACT_BOOKINGS JOIN DIM_HOTELS ON

```

```

DIM_HOTELS.PROPERTY_ID=FACT_BOOKINGS.PROPERTY_ID
GROUP BY property_id
ORDER BY SUM(FACT_BOOKINGS.REVENUE_REALIZED)
LIMIT 1;

/*-----*/
/* STORED PROCEDURES FOR TOP AND BOTTOM VALUES */

/* 1. N TOP HOTELS REVENUE WISE*/
DELIMITER $$

CREATE PROCEDURE GetTopHotels(IN limit_value INT)
BEGIN
    SELECT
        DIM_HOTELS.CITY,
        DIM_HOTELS.PROPERTY_NAME,
        FACT_BOOKINGS.PROPERTY_ID,
        CONCAT(SUM(FACT_BOOKINGS.REVENUE_REALIZED), ' Rs.') AS REVENUE
    FROM FACT_BOOKINGS
    JOIN DIM_HOTELS
        ON DIM_HOTELS.PROPERTY_ID = FACT_BOOKINGS.PROPERTY_ID
    GROUP BY FACT_BOOKINGS.PROPERTY_ID
    ORDER BY SUM(FACT_BOOKINGS.REVENUE_REALIZED) DESC
    LIMIT limit_value;
END$$

DELIMITER ;
/*-----*/
/* 2. N BOTTOM HOTELS REVENUE WISE*/
DELIMITER $$

CREATE PROCEDURE GetBottomHotels(IN limit_value INT)
BEGIN
    SELECT
        DIM_HOTELS.CITY,
        DIM_HOTELS.PROPERTY_NAME,
        FACT_BOOKINGS.PROPERTY_ID,
        CONCAT(SUM(FACT_BOOKINGS.REVENUE_REALIZED), ' Rs.') AS REVENUE
    FROM FACT_BOOKINGS
    JOIN DIM_HOTELS
        ON DIM_HOTELS.PROPERTY_ID = FACT_BOOKINGS.PROPERTY_ID
    GROUP BY FACT_BOOKINGS.PROPERTY_ID
    ORDER BY SUM(FACT_BOOKINGS.REVENUE_REALIZED)
    LIMIT limit_value;
END$$

DELIMITER ;
/*-----*/
/* 2. N TOP / BOTTOM HOTELS BOOKINGS WISE*/
DELIMITER //

```

```
CREATE PROCEDURE GetBottomHotels_BOOKINGS(IN p_limit INT)
BEGIN
    SELECT h.CITY,
        h.PROPERTY_NAME,
        f.PROPERTY_ID,
        COUNT(f.PROPERTY_ID) AS BOOKINGS
    FROM FACT_BOOKINGS f
    JOIN DIM_HOTELS h
        ON h.PROPERTY_ID = f.PROPERTY_ID
    GROUP BY f.PROPERTY_ID
    ORDER BY COUNT(f.PROPERTY_ID) DESC
    LIMIT p_limit;
END //
```

```
DELIMITER ;
```

```
DELIMITER //
```

```
CREATE PROCEDURE GetBottomHotels_BOOKINGS(IN p_limit INT)
BEGIN
    SELECT h.CITY,
        h.PROPERTY_NAME,
        f.PROPERTY_ID,
        COUNT(f.PROPERTY_ID) AS BOOKINGS
    FROM FACT_BOOKINGS f
    JOIN DIM_HOTELS h
        ON h.PROPERTY_ID = f.PROPERTY_ID
    GROUP BY f.PROPERTY_ID
    ORDER BY COUNT(f.PROPERTY_ID)
    LIMIT p_limit;
END //
```

```
DELIMITER ;
```

```
/*-----*/
LANDING PAGE
```

```
DELIMITER $$
```

```
CREATE PROCEDURE SelectFromCustomView(IN viewName VARCHAR(64))
BEGIN
    -- Declare SQL variable
    SET @sql = CONCAT('SELECT * FROM ', viewName, ' LIMIT 50;');

    -- Prepare and execute the dynamic SQL
    PREPARE stmt FROM @sql;
    EXECUTE stmt;
    DEALLOCATE PREPARE stmt;
END$$
```

DELIMITER :

ROOM FOR IMPROVEMENTS

- 1. DESPITE OF BEING CAPITAL OF COUNTRY DELHI HAS RECEIVED LEAST BOOKINGS RESULTING IN LEAST REVENUE GENERATING STATE.**
 - Company can work on tie-ups with political parties during sessions of parliament such as Budget session, Monsoon session and Winter session
 - The Company can promote their business in the most relevant regions where tourist visits are followed by a halt.
Most tourists from abroad start with Delhi–Agra–Jaipur (Golden Triangle).
Nature lovers go to Himachal or Uttarakhand.
Spiritual seekers visit Varanasi, Haridwar, Rishikesh, or Amritsar.
- 2. MINIMIZING DIFFERENCE BETWEEN EACH CLASS'S BUSINESS**
 - % Difference between each class's revenue collected is app 21-22 %
 - The company can work on reducing it up to 10 % by deploying dynamic pricing.
 - Highest revenue share by ELITE class highlights clear focus of the company
On the luxury side, the company can think of attracting the general masses for the STANDARD class at discounted price.
- 3. IMPROVISING BOOKING CHANNELS**
 - The company can use SEO for improving DIRECT OFFLINE bookings, Strategic commission based tie-ups with local tour operators, travel agencies , cab drivers, and restaurants can help to bring more DIRECT OFFLINE customers.
 - Digital marketing and influencer based marketing can help online channels to attract more customers.
- 4. OFF SEASON BOOKINGS**
 - As we are moving away from the vacation period, bookings are decreasing.
 - Promotional activities,effective marketing and targeting local events and occasions can help the company to become season independent.
- 5. AVERAGE RATING (3.62)**
 - The company can implement programs to enhance the user experience of customers.

- Improvising on service factors and keeping all amenities in order can help to get more ratings.
6. **MOST BOOKED AND LEAST BOOKED HOTELS**
- MUMBAI'S Atliq exotica receiving maximum bookings (7338)
 - DELHI'S Atliq grands received least bookings (3153)