PUB PRICING ANALYSIS

PUBS

pub_id	pub_name	city	state	country
1	The Red Lion	London	England	United Kingdom
2	The Dubliner	Dublin	Dublin	Ireland
3	The Cheers Bar	Boston	Massachusetts	United States
4	La Cerveceria	Barcelona	Catalonia	Spain

BEVERAGES

beverage_id	beverage_name	category	alcohol_content	price_per_unit
1	Guiness	Beer	4.2	5.99
2	Jameson	Whiskey	40	29.99
3	Mojito	Cocktail	12	8.99
4	Chardonnay	Wine	13.5	12.99
5	IPA	Beer	6.8	4.99
6	Tequila	Spirit	38	24.99

RATINGS

rating_id	pub_id	customer_name	rating	review
1	1	John Smith	4.5	Great pub with a wide selection of beers
2	1	Emma Johnson	4.8	Excellent service and cozy atmosphere
3	2	Michael Brown	4.2	Authentic atmosphere and great beers
4	3	Sophia Davis	4.6	The cocktails were amazing! Will definitely come back.
5	4	Oliver Wilson	4.9	The wine selection here is outstanding
6	4	Isabella Moore	4.3	Had a great time trying different spirits
7	1	Sophia Davis	4.7	Loved the pub food! Great ambience
8	2	Ethan Johnson	4.5	A good place to hang out with friends
9	2	Olivia Taylor	4.1	The whiskey tasting experience was fantastic
10	3	William Miller	4.4	Friendly staff and live music on weekends

SALES

sale_id	pub_id	beverage_id	quantity	transaction_date
1	1	1	10	1/5/23
2	1	2	5	1/5/23
3	2	1	8	1/5/23
4	3	3	12	2/5/23
5	4	4	3	2/5/23
6	4	6	6	3/5/23
7	2	3	6	3/5/23
8	3	1	15	3/5/23
9	3	4	7	3/5/23
10	4	1	10	4/5/23
11	1	3	5	6/5/23
12	2	2	3	9/5/23
13	2	5	9	9/5/23
14	3	6	4	9/5/23
15	4	3	7	9/5/23
16	4	4	2	9/5/23
17	1	4	6	11/5/23
18	1	6	8	11/5/23
19	2	1	12	12/5/23
20	3	5	5	13/5/23

QUESTIONS

1. How many pubs are located in each country?
2. What is the total sales amount for each pub, including the beverage price and quantity sold?
3. Which pub has the highest average rating?
4. What are the top 5 beverages by sales quantity across all pubs?
5. How many sales transactions occurred on each date?
6. Find the name of someone that had cocktails and which pub they had it in.
7. What is the average price per unit for each category of beverages, excluding the category 'Spirit'?
8. Which pubs have a rating higher than the average rating of all pubs?
9. What is the running total of sales amount for each pub, ordered by the transaction date?
10. For each country, what is the average price per unit of beverages in each category, and what is the overall average price per unit of beverages across all categories?
11. For each pub, what is the percentage contribution of each category of beverages to the total sales amount, and what is the pub's overall sales amount?

1. How many pubs are located in each country?

```sql
SELECT country,COUNT(pub_id) AS no_of_pubs FROM pubs
GROUP BY country;
```

country	no_of_pubs
Ireland	1
United States	1
Spain	1
United Kingdom	1

2. What is the total sales amount for each pub, including the beverage price and quantity sold?

```sql
SELECT DISTINCT pu.pub_id,pu.pub_name,
SUM(b.price_per_unit*s.quantity) OVER(PARTITION BY pu.pub_id) AS total_sales_amount
FROM pubs pu JOIN sales s ON pu.pub_id=s.pub_id
JOIN beverages b ON s.beverage_id=b.beverage_id
ORDER BY pu.pub_id;
```

pub_id	pub_name	total_sales_amount
1	The Red Lion	532.66
2	The Dubliner	308.62
3	The Cheers Bar	413.57
4	La Cerveceria	337.72

3. Which pub has the highest average rating?

```sql
SELECT pu.pub_name,(AVG(rating)) AS avg_rating FROM pubs pu
JOIN ratings r ON pu.pub_id=r.pub_id
GROUP BY pu.pub_name
ORDER BY avg_rating DESC
LIMIT 1;
```

pub_name	avg_rating
The Red Lion	4.666666666666667

4. What are the top 5 beverages by sales quantity across all pubs?

```sql
SELECT b.beverage_id,b.beverage_name,SUM(s.quantity) AS sales_quantity FROM beverages b
JOIN sales s ON b.beverage_id=s.beverage_id
GROUP BY b.beverage_id
ORDER BY sales_quantity DESC
LIMIT 5;
```

beverage_id	beverage_name	sales_quantity
1	Guinness	55
3	Mojito	30
4	Chardonnay	18
6	Tequila	18
5	IPA	14

5. How many sales transactions occurred on each date?

```sql
SELECT transaction_date,COUNT(sale_id) AS total_sales FROM sales s
GROUP BY transaction_date
ORDER BY transaction_date;
```

transaction_date	total_sales
2023-05-01	3
2023-05-02	2
2023-05-03	4

2023-05-04	1
2023-05-06	1
2023-05-09	5
2023-05-11	2
2023-05-12	1
2023-05-13	1

6. Find the name of someone that had cocktails and which pub they had it in.

```sql
SELECT customer_name,pub_name FROM ratings r
JOIN pubs pu ON r.pub_id=pu.pub_id
JOIN sales s ON r.pub_id=s.pub_id
JOIN beverages b ON s.beverage_id=b.beverage_id
WHERE b.category='Cocktail'
ORDER BY r.customer_name;
```

customer_name	pub_name
Emma Johnson	The Red Lion
Ethan Johnson	The Dubliner

Isabella Moore	La Cerveceria
John Smith	The Red Lion
Michael Brown	The Dubliner
Oliver Wilson	La Cerveceria
Olivia Taylor	The Dubliner
Sophia Davis	The Cheers Bar
Sophia Davis	The Red Lion
William Miller	The Cheers Bar

7. What is the average price per unit for each category of beverages, excluding the category 'Spirit'?

```sql
SELECT category,ROUND(AVG(price_per_unit),2) AS avg_price_per_unit FROM beverages
GROUP BY category
HAVING category!='Spirit';
```

category	avg_price_per_unit
Cocktail	8.99
Beer	5.49
Wine	12.99
Whiskey	29.99

8. Which pubs have a rating higher than the average rating of all pubs?

```sql
WITH CTE AS (
  SELECT pub_name,rating,DENSE_RANK() OVER(PARTITION BY pub_name ORDER BY rating DESC) AS dn
  FROM ratings r
  JOIN pubs P ON r.pub_id=P.pub_id
  WHERE rating>(SELECT AVG(rating) FROM ratings)
  )
  SELECT pub_name,rating FROM CTE
  WHERE dn=1;
```

pub_name	rating
La Cerveceria	4.9
The Cheers Bar	4.6
The Red Lion	4.8

9. What is the running total of sales amount for each pub, ordered by the transaction date?

```sql
with CTE AS (
  SELECT P.pub_id,P.pub_name,s.transaction_date,SUM(s.quantity * price_per_unit) AS total_sales
  FROM sales s
  JOIN pubs P ON s.pub_id=P.pub_id
  JOIN beverages b ON s.beverage_id=b.beverage_id
  GROUP BY P.pub_id,P.pub_name,s.transaction_date
  )
  SELECT *,SUM(total_sales) OVER (PARTITION BY pub_id ORDER BY transaction_date) AS running_total
  FROM cte;
```

pub_id	pub_name	transaction_date	total_sales	running_total
1	The Red Lion	2023-05-01	209.85	209.85
1	The Red Lion	2023-05-06	44.95	254.80
1	The Red Lion	2023-05-11	277.86	532.66

2	The Dubliner	2023-05-01	47.92	47.92
2	The Dubliner	2023-05-03	53.94	101.86
2	The Dubliner	2023-05-09	134.88	236.74
2	The Dubliner	2023-05-12	71.88	308.62
3	The Cheers Bar	2023-05-02	107.88	107.88
3	The Cheers Bar	2023-05-03	180.78	288.66
3	The Cheers Bar	2023-05-09	99.96	388.62
3	The Cheers Bar	2023-05-13	24.95	413.57
4	La Cerveceria	2023-05-02	38.97	38.97
4	La Cerveceria	2023-05-03	149.94	188.91
4	La Cerveceria	2023-05-04	59.90	248.81
4	La Cerveceria	2023-05-09	88.91	337.72

10. For each country, what is the average price per unit of beverages in each category, and what is the overall average price per unit of beverages across all categories?

```sql
with cte_avg_price AS (
SELECT P.country,b.category,AVG(b.price_per_unit) AS average_price FROM pubs P
JOIN sales s ON P.pub_id=s.pub_id
JOIN beverages b ON s.beverage_id=b.beverage_id
GROUP BY P.country,b.category
),
cte_total_avg_price AS (
SELECT P.country,AVG(b.price_per_unit) AS total_average_price FROM pubs P
JOIN sales s ON P.pub_id=s.pub_id
JOIN beverages b ON s.beverage_id=b.beverage_id
GROUP BY P.country
)
SELECT A.country AS country,A.category AS category,A.average_price AS avg_price_per_unit,
b.total_average_price AS total_average_price_unit
FROM cte_avg_price A
JOIN cte_total_avg_price b
ON A.country=b.country
ORDER BY A.category,A.country;
```

country	category	avg_price_per_unit	total_average_price_unit
Ireland	Beer	5.65666666666667	11.1900000000000
Spain	Beer	5.9900000000000	13.1900000000000
United Kingdom	Beer	5.9900000000000	16.5900000000000
United States	Beer	5.4900000000000	11.5900000000000
Ireland	Cocktail	8.9900000000000	11.1900000000000
Spain	Cocktail	8.9900000000000	13.1900000000000
United Kingdom	Cocktail	8.9900000000000	16.5900000000000
United States	Cocktail	8.9900000000000	11.5900000000000
Spain	Spirit	24.9900000000000	13.1900000000000
United Kingdom	Spirit	24.9900000000000	16.5900000000000
United States	Spirit	24.9900000000000	11.5900000000000
Ireland	Whiskey	29.9900000000000	11.1900000000000

United Kingdom	Whiskey	29.9900000000000	16.5900000000000
Spain	Wine	12.9900000000000	13.1900000000000
United Kingdom	Wine	12.9900000000000	16.5900000000000
United States	Wine	12.9900000000000	11.5900000000000

11. For each pub, what is the percentage contribution of each category of beverages to the total sales amount, and what is the pubs overall sales amount?

```sql
with cte1 AS (
  SELECT P.pub_id,P.pub_name,b.category,SUM(s.quantity * b.price_per_unit) AS total_sales FROM sales s
  JOIN beverages b ON s.beverage_id=b.beverage_id
  JOIN pubs P ON P.pub_id=s.pub_id
  GROUP BY P.pub_id,P.pub_name,b.category
),
cte2 AS (
  SELECT*,SUM(total_sales) OVER(PARTITION BY pub_id) AS total_sale_by_pub
  FROM cte1
)
SELECT *,ROUND((total_sales/total_sale_by_pub)*100,2) AS percentage_contribution
FROM cte2;
```

pub_id	pub_name	category	total_sales	total_sale_b...	percentage_contribution
1	The Red Lion	Beer	59.90	532.66	11.25
1	The Red Lion	Cocktail	44.95	532.66	8.44
1	The Red Lion	Spirit	199.92	532.66	37.53
1	The Red Lion	Whiskey	149.95	532.66	28.15
1	The Red Lion	Wine	77.94	532.66	14.63
2	The Dubliner	Beer	164.71	308.62	53.37
2	The Dubliner	Cocktail	53.94	308.62	17.48
2	The Dubliner	Whiskey	89.97	308.62	29.15

3	The Cheers Bar	Beer	114.80	413.57	27.76
3	The Cheers Bar	Cocktail	107.88	413.57	26.09
3	The Cheers Bar	Spirit	99.96	413.57	24.17
3	The Cheers Bar	Wine	90.93	413.57	21.99
4	La Cerveceria	Beer	59.90	337.72	17.74
4	La Cerveceria	Cocktail	62.93	337.72	18.63
4	La Cerveceria	Spirit	149.94	337.72	44.40
4	La Cerveceria	Wine	64.95	337.72	19.23