

# Challenge 5 - Pub pricing analysis



You are a Pricing Analyst working for a pub chain called 'Pubs "R" Us' You have been tasked with analysing the drinks prices and sales to gain a greater insight into how the pubs in your chain are performing.

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

## 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	Guinness	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

1. How many pubs are located in each country??

Ans:

select country, count(pub\_id) as no\_of\_pubs

from pubs

group by 1;

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

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

Ans:

with cte as (

```
select s.pub_id, p.pub_name, (s.quantity*b.price_per_unit)
as total_sales
from pubs p
join sales s on p.pub_id=s.pub_id
join beverages b using(beverage_id)
group by 1,2,3)
select pub_name, sum(total_sales) as total_sales
from cte group by 1
```

	pub_name	total_sales
▶	The Red Lion	532.66
	The Dubliner	308.62
	The Cheers Bar	413.57
	La Cerveceria	337.72

### 3. Which pub has the highest average rating?

Ans:

```
select p.pub_name, round(avg(r.rating),2) as  
highest_average_rating  
from ratings r  
join pubs p using(pub_id)  
group by 1  
order by 2 desc limit 1;
```

Result Grid | Filter Rows:

	pub_name	highest_average_rating
▶	The Red Lion	4.67

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

Ans:

```
select b.beverage_name, sum(s.quantity) as sales_quantity  
from sales s  
join beverages b using(beverage_id)  
group by 1  
order by 2 desc;
```

beverage_name	sales_quantity
Guinness	55
Mojito	30
Chardonnay	18
Tequila	18
IPA	14
Jameson	8

## 5. How many sales transactions occurred on each date?

Ans:

```
select transaction_date, count(distinct sale_id) as  
no_of_transactions  
from sales group by 1;
```

Result Grid | Filter Rows:

transaction_date	no_of_transactions
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.

Ans:

```
select r.customer_name, p.pub_name
```

```
from ratings r
```

```
join pubs p using(pub_id)
```

```
join sales s using(pub_id)
```

```
join beverages b using(beverage_id)
```

```
where b.category='cocktail'
```

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



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

Ans:

```
select category, round(avg(price_per_unit),2) as
average_price
from beverages
where category !='spirit'
group by 1
order by 2 desc;
```

category	average_price
Whiskey	29.99
Wine	12.99
Cocktail	8.99
Beer	5.49

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

Ans:

```
select distinct(p.pub_name), round(avg(r.rating),2) as avg_rating
from pubs p
join ratings r using(pub_id)
where r.rating > (select avg(rating)
from ratings)
group by 1;
```

Result Grid | Filter Rows:

	pub_name	avg_rating
▶	The Red Lion	4.75
	The Cheers Bar	4.6
	La Cerveceria	4.9

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

Ans:

with cte1 as(

```
select pub_name, transaction_date,  
sum(price_per_unit*quantity) as total_sales
```

```
from pubs p
```

```
join sales s using(pub_id)
```

```
join beverages b using(beverage_id)
```

```
group by 1, 2
```

```
order by 1, 2
```

```
)
```

```
select pub_name, transaction_date, total_sales,  
sum(total_sales) over( partition by pub_name order by  
transaction_date ROWS BETWEEN UNBOUNDED  
PRECEDING AND CURRENT ROW) as running_total  
from cte1
```

# PIRB

[Result Grid](#)[Filter Rows:](#)[Export:](#)

	pub_name	transaction_date	total_sales	running_total
▶	La Cerveceria	2023-05-02	38.97	38.97
	La Cerveceria	2023-05-03	149.94	188.91
	La Cerveceria	2023-05-04	59.90	248.81
	La Cerveceria	2023-05-09	88.91	337.72
	The Cheers Bar	2023-05-02	107.88	107.88
	The Cheers Bar	2023-05-03	180.78	288.66
	The Cheers Bar	2023-05-09	99.96	388.62
	The Cheers Bar	2023-05-13	24.95	413.57
	The Dubliner	2023-05-01	47.92	47.92
	The Dubliner	2023-05-03	53.94	101.86
	The Dubliner	2023-05-09	134.88	236.74
	The Dubliner	2023-05-12	71.88	308.62
	The Red Lion	2023-05-01	209.85	209.85
	The Red Lion	2023-05-06	44.95	254.80
	The Red Lion	2023-05-11	277.86	532.66

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?

Ans:

with cte1 as

(

```
select country, category, round(avg(price_per_unit),2) as  
average_price_per_unit_each_cat
```

```
from beverages b
```

```
join sales s using(beverage_id)
```

```
join pubs p using(pub_id)
```

```
group by 1,2
```

),

cte2 as

(

```
select country,round(avg(price_per_unit),2) as average_price_per_unit_all_cat  
from beverages b
```

```
join sales s using(beverage_id)
```

```
join pubs p using(pub_id)
```

```
group by 1)
```

```
select c.country, category, average_price_per_unit_each_cat,
```

```
average_price_per_unit_all_cat
```

```
from cte1 c
```

```
join cte2 ct using(country);
```

# PIRB

	country	category	average_price_per_unit_each_cat	average_price_per_unit_all_cat
▶	United Kingdom	Beer	5.99	16.59
	United Kingdom	Whiskey	29.99	16.59
	United Kingdom	Cocktail	8.99	16.59
	United Kingdom	Wine	12.99	16.59
	United Kingdom	Spirit	24.99	16.59
	Ireland	Beer	5.66	11.19
	Ireland	Cocktail	8.99	11.19
	Ireland	Whiskey	29.99	11.19
	United States	Cocktail	8.99	11.59
	United States	Beer	5.49	11.59
	United States	Wine	12.99	11.59
	United States	Spirit	24.99	11.59
	Spain	Wine	12.99	13.19
	Spain	Spirit	24.99	13.19
	Spain	Beer	5.99	13.19
	Spain	Cocktail	8.99	13.19

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?

Ans:

with cte1 as

(

```
select pub_name, category, sum(quantity*price_per_unit) as  
sales_category
```

```
from pubs p
```

```
join sales s using(pub_id)
```

```
join beverages b using(beverage_id)
```

```
group by 1,2
```

),

cte2 as

(

```
select pub_name, sum(quantity*price_per_unit) as total_sales
```

```
from pubs p
```

```
join sales s using(pub_id)
```

```
join beverages b using(beverage_id)
```

```
group by 1
```

)

```
select c.pub_name, category, sales_category, total_sales,
```

```
concat(round((sales_category/total_sales)*100,2),"") as
```

```
contribution_in_percentage
```

```
from cte1 c
```

```
join cte2 ct using(pub_name);
```

# DIDD

Result Grid | Filter Rows:  Export: Wrap Cell Content:

	pub_name	category	sales_category	total_sales	contribution_in_percentage
▶	The Red Lion	Beer	59.90	532.66	11.25%
	The Red Lion	Whiskey	149.95	532.66	28.15%
	The Red Lion	Cocktail	44.95	532.66	8.44%
	The Red Lion	Wine	77.94	532.66	14.63%
	The Red Lion	Spirit	199.92	532.66	37.53%
	The Dubliner	Beer	164.71	308.62	53.37%
	The Dubliner	Cocktail	53.94	308.62	17.48%
	The Dubliner	Whiskey	89.97	308.62	29.15%
	The Cheers Bar	Cocktail	107.88	413.57	26.09%
	The Cheers Bar	Beer	114.80	413.57	27.76%
	The Cheers Bar	Wine	90.93	413.57	21.99%
	The Cheers Bar	Spirit	99.96	413.57	24.17%
	La Cerveceria	Wine	64.95	337.72	19.23%
	La Cerveceria	Spirit	149.94	337.72	44.40%
	La Cerveceria	Beer	59.90	337.72	17.74%
	La Cerveceria	Cocktail	62.93	337.72	18.63%