

WARBY PARKER

[Warby Parker](#) is a transformative lifestyle brand with a lofty objective: to offer designer eyewear at a revolutionary price while leading the way for socially conscious businesses. Founded in 2010 and named after two characters in an early Jack Kerouac journal, Warby Parker believes in creative thinking, smart design, and doing good in the world. For every pair of eyeglasses and sunglasses sold, a pair is distributed to someone in need.

In this project, you will analyze different Warby Parker's marketing funnels in order to calculate conversion rates. Here are the funnels and the tables that you are given:

This project was a collaboration with Warby Parker's Data Science team (thank you!) and uses fictional data.

1. To help users find their perfect frame, Warby Parker has a [Style Quiz](#) that has the following questions:

1. "What are you looking for?"
2. "What's your fit?"
3. "Which shapes do you like?"
4. "Which colors do you like?"
5. "When was your last eye exam?"

The users' responses are stored in a table called `survey`. Select all columns from the first 10 rows. What columns does the table have?

```
SELECT *  
FROM survey  
LIMIT 10;
```

The `survey` table has the following columns:

- `question`
- `user_id`
- `response`

2. Users will "give up" at different points in the survey. Let's analyze how many users move from Question 1 to Question 2, etc. Create a quiz funnel using the `GROUP BY` command. *What is the number of responses for each question?*

```
select question, count(distinct user_id) as 'response_count'
from survey
group by 1
order by 2 desc
limit 10;
```

3. Using a spreadsheet program like Excel or Google Sheets, calculate the percentage of users who answer each question: *Which question(s) of the quiz have a lower completion rates? What do you think is the reason?*

```
select distinct user_id, count(response) as response_count
from survey
where response is not null
group by 1
having response_count > 4
limit 10;

with user_response_count as (
select distinct user_id, count(response) as response_count
from survey
where response is not null
group by 1
having response_count > 4)
select count(distinct user_id) as all_answer_users
from user_response_count;

select count(distinct user_id) as total_users
from survey;

select (270./500);

select question, count(response), count(response)/5 as 'rate as %'
from survey
group by 1;
```

4. Warby Parker's purchase funnel is: Take the Style Quiz → Home Try-On → Purchase the Perfect Pair of Glasses During the Home Try-On stage, we will be conducting an A/B Test:

- 50% of the users will get **3** pairs to try on
- 50% of the users will get **5** pairs to try on

Let's find out whether or not users who get more pairs to try on at home will be more likely to make a purchase. The data will be distributed across three tables:

- `quiz`
- `home_try_on`
- `purchase`

Examine the first five rows of each table What are the column names?

```

select *
from quiz
limit 5;

select *
from home_try_on
limit 5;

select *
from purchase
limit 5;

```

5. We'd like to create a new table with the following layout:

user_id	is_home_try_on	number_of_pairs	is_purchase
4e8118dc	True	3	False
291f1cca	True	5	False
75122300	False	NULL	False

Each row will represent a single user from the browse table:

- If the user has any entries in `home_try_on`, then `is_home_try_on` will be 'True'.
- `number_of_pairs` comes from `home_try_on` table
- If the user has any entries in `is_purchase`, then `is_purchase` will be 'True'.

Use a `LEFT JOIN` to combine the three tables, starting with the top of the funnel (quiz) and ending with the bottom of the funnel (purchase). Select only the first 10 rows from this table (otherwise, the query will run really slowly).

```

select q.user_id,
h.user_id is not null as 'is_home_try_on',
h.number_of_pairs,
p.user_id is not null as 'is_purchase'
from quiz as 'q'
left join home_try_on as 'h'
on q.user_id = h.user_id
left join purchase as 'p'
on q.user_id = p.user_id
group by 1
limit 10;

```

6. Once we have the data in this format, we can analyze it in several ways:

- We can calculate overall conversion rates by aggregating across all rows.
- We can compare conversion from `quiz`→`home_try_on` and `home_try_on`→`purchase`.
- We can calculate the difference in purchase rates between customers who had 3 `number_of_pairs` with ones who had 5.
- And more!

We can also use the original tables to calculate things like:

- The most common results of the style `quiz`.
- The most common types of `purchase` made.
- And more!

What are some actionable insights for Warby Parker?

```
with funnel as
(select q.user_id,
h.user_id is not null as 'is_home_try_on',
h.number_of_pairs,
p.user_id is not null as 'is_purchase'
from quiz as 'q'
left join home_try_on as 'h'
on q.user_id = h.user_id
left join purchase as 'p'
on q.user_id = p.user_id
group by 1
limit 10)
select number_of_pairs, sum(is_purchase)
from funnel
group by 1
limit 5;
```