



# Warby Parker Funnels

Learn SQL from Scratch

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## Number of Responses for Each Quiz Question

The purpose of this exercise is to determine the number of responses obtained for each quiz question in order to then be able to determine completion rates. In order to understand the contents of the 'quiz' table, the query to the right was used, yielding the below result.

```
SELECT *,  
FROM quiz  
LIMIT 5;
```

user_id	style	fit	shape	color
4e8118dc-bb3d-49bf-85fc-cca8d83232ac	Women's Styles	Medium	Rectangular	Tortoise
291f1cca-e507-48be-b063-002b14906468	Women's Styles	Narrow	Round	Black
75122300-0736-4087-b6d8-c0c5373a1a04	Women's Styles	Wide	Rectangular	Two-Tone
75bc6ebd-40cd-4e1d-a301-27ddd93b12e2	Women's Styles	Narrow	Square	Two-Tone
ce965c4d-7a2b-4db6-9847-601747fa7812	Women's Styles	Wide	Rectangular	Black

## Questions and completion rate

The query to the right was used to determine how many users answered each question. This shows that completion rates decline after each question, with question 5 having the lowest completion rate.

This could be because it is the final question and users are tired, or because it is the most “serious” in that it relates to a medical exam.

```
SELECT question,  
COUNT(DISTINCT user_id) AS 'num_users'  
FROM survey  
GROUP BY 1;
```

question	num_users	% to each steps
1. What are you looking for?	500	100%
2. What's your fit?	475	95.00%
3. Which shapes do you like?	380	76.00%
4. Which colors do you like?	361	72.20%
5. When was your last eye exam?	270	54.00%

# Funnel 1

A query creating a rudimentary funnel showing how many users took the quiz, tried on at home and then made a purchase is shown to the right, with results below.

This shows that 49.5% of quiz takers end up making a purchase.

```
SELECT COUNT(DISTINCT q.user_id) AS 'Quiz Takers',  
COUNT(DISTINCT h.user_id) AS 'Tried On At Home',  
COUNT(DISTINCT p.user_id) AS 'Purchased'  
FROM quiz 'q'  
LEFT JOIN home_try_on AS 'h'  
ON q.user_id = h.user_id  
LEFT JOIN purchase AS 'p'  
ON p.user_id = q.user_id;
```

Quiz Takers	Tried on At Home	Purchased
1000	750	495

# Temporary table

To create the temporary table called for in the prompt, the query to the right was used.

```
SELECT q.user_id, t.user_id IS NOT NULL AS  
'is_home_try_on', t.number_of_pairs, p.user_id IS NOT  
NULL AS 'is_purchase'  
FROM quiz AS 'q'  
LEFT JOIN home_try_on AS 't' on q.user_id = t.user_id  
LEFT JOIN purchase AS 'p' on p.user_id = q.user_id;
```

## A/B Test

A temporary table 'ab\_test' was then created and used to determine how many customers that received 3 or 5 pairs made a purchase.

The results show that users who received five pairs are 26.2% more likely to make a purchase.

three_pair_purchase	five_pair_purchase
0.530343007915567	0.792452830188679

```
WITH ab_test AS (  
  SELECT q.user_id,  
         t.user_id IS NOT NULL AS 'is_home_try_on',  
         t.number_of_pairs, p.user_id IS NOT NULL AS  
         'is_purchase'  
  FROM quiz AS 'q'  
  LEFT JOIN home_try_on AS 't' on q.user_id = t.user_id  
  LEFT JOIN purchase AS 'p' on p.user_id = q.user_id)  
  
  SELECT 1.0 * COUNT(DISTINCT CASE WHEN number_of_pairs  
    = '3 pairs' AND is_purchase = 1 THEN user_id END)  
    /  
    COUNT(DISTINCT CASE WHEN number_of_pairs = '3 pairs'  
    THEN user_id END) AS 'three_pair_purchase',  
    1.0 * COUNT(DISTINCT CASE WHEN number_of_pairs = '5  
    pairs' AND is_purchase = 1 THEN user_id END)  
    /  
    COUNT(DISTINCT CASE WHEN number_of_pairs = '5 pairs'  
    THEN user_id END) AS 'five_pair_purchase'  
  FROM ab_test;
```

## Most common style

The query to the right was used to determine which style has the most purchases by counting the number of user\_ids associated with a given product\_id.

This shows that product\_id 3 is the most popular, and product\_id 5 the least.

p_id_one	p_id_two	p_id_three	p_id_four	p_id_five	p_id_six	p_id_seven	p_id_eight	p_id_nine
52	43	63	44	41	50	44	42	54

```
SELECT COUNT(CASE WHEN product_id = 1 THEN user_id
END) AS 'p_id_one',
COUNT(CASE WHEN product_id = 2 THEN user_id END) AS
'p_id_two',
COUNT(CASE WHEN product_id = 3 THEN user_id END) AS
'p_id_three',
COUNT(CASE WHEN product_id = 4 THEN user_id END) AS
'p_id_four',
COUNT(CASE WHEN product_id = 5 THEN user_id END) AS
'p_id_five',
COUNT(CASE WHEN product_id = 6 THEN user_id END) AS
'p_id_six',
COUNT(CASE WHEN product_id = 7 THEN user_id END) AS
'p_id_seven',
COUNT(CASE WHEN product_id = 8 THEN user_id END) AS
'p_id_eight',
COUNT(CASE WHEN product_id = 9 THEN user_id END) AS
'p_id_nine'
FROM purchase;
```

## Living together?

I was curious if any purchasers lived together and ran this query to determine if that was the case.

According to the results, one household made two purchases!

```
SELECT COUNT(DISTINCT purchase.user_id),  
COUNT(DISTINCT home_try_on.address)  
FROM purchase INNER JOIN home_try_on ON  
purchase.user_id = home_try_on.user_id;
```

COUNT(DISTINCT purchase.user_id)	COUNT(DISTINCT home_try_on.address)
495	494