



Warby Parker Capstone

Learn SQL from Scratch

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Question 1

Q: What columns does the table have?

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

Query Results		
question	user_id	response
1. What are you looking for?	005e7f99-d48c-4fce-b605-10506c85aaf7	Women's Styles
2. What's your fit?	005e7f99-d48c-4fce-b605-10506c85aaf7	Medium
3. Which shapes do you like?	00a556ed-f13e-4c67-8704-27e3573684cd	Round
4. Which colors do you like?	00a556ed-f13e-4c67-8704-27e3573684cd	Two-Tone
1. What are you looking for?	00a556ed-f13e-4c67-8704-27e3573684cd	I'm not sure. Let's skip it.
2. What's your fit?	00a556ed-f13e-4c67-8704-27e3573684cd	
5. When was your last eye exam?	00a556ed-f13e-4c67-8704-27e3573684cd	<1 Year
3. Which shapes do you like?	00bf9d63-0999-43a3-9e5b-9c372e6890d2	Square
5. When was your last eye exam?	00bf9d63-0999-43a3-9e5b-9c372e6890d2	<1 Year
2. What's your fit?	00bf9d63-0999-43a3-9e5b-9c372e6890d2	Medium

Question 2

- Q: How many times was each question answered?

Code:

```
SELECT question,  
COUNT (DISTINCT user_id)  
FROM survey  
GROUP BY question;
```

Query Results	
question	COUNT (DISTINCT user_id)
1. What are you looking for?	500
2. What's your fit?	475
3. Which shapes do you like?	380
4. Which colors do you like?	361
5. When was your last eye exam?	270

Question 3

Q: 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?—Question 5

What do you think is the reason?—People forget to make their yearly eye exam appointment!

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question	count(distinct user_id)	Response Rate
1. What are you looking for?	500	100%
2. What's your fit?	475	95%
3. Which shapes do you like?	380	76%
4. Which colors do you like?	361	72%
5. When was your last eye exam?	270	54%

Question 4

Q: What columns do the tables survey, quiz and home_try_on have?

Query Results					
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-a301-27dd93b12e2	Women's Styles	Narrow	Square	Two-Tone	
ce965c4d-7a2b-4db6-9847-601747fa7812	Women's Styles	Wide	Rectangular	Black	
user_id	number_of_pairs		address		
d8add87-3217-4429-9a01-d56d68111da7	5 pairs		145 New York 9a		
f52b07c8-abe4-4f4a-9d39-ba9fc9a184cc	5 pairs		383 Madison Ave		
8ba0d2d5-1a31-403e-9fa5-79540f8477f9	5 pairs		287 Pell St		
4e71850e-8bbf-4e6b-acc-49a7bb46c586	3 pairs		347 Madison Square N		
3bc8f97f-2336-4dab-bd86-e391609dab97	5 pairs		182 Cornelia St		
user_id	product_id	style	model_name	color	price
00a9dd17-36c8-430c-9d76-df49d4197dcf	8	Women's Styles	Lucy	Jet Black	150
00e15fe0-c86f-4818-9c63-3422211baa97	7	Women's Styles	Lucy	Elderflower Crystal	150
017506f7-aba1-4b9d-8b7b-f4426e71b8ca	4	Men's Styles	Dawes	Jet Black	150
0176bfb3-9c51-4b1c-b593-87edab3c54cb	10	Women's Styles	Eugene Narrow	Rosewood Tortoise	95
01fdf106-f73c-4d3f-a036-2f3e2ab1ce06	8	Women's Styles	Lucy	Jet Black	150

```
/*Question 4*/
SELECT *
FROM quiz
LIMIT 5;

SELECT *
FROM home_try_on
LIMIT 5;

SELECT *
FROM purchase
LIMIT 5;
```

Question 5

Q: Join all the tables

Query Results			
user_id	is_home_try_on	number_of_pairs	is_purchase
4e8118dc-bb3d-49bf-85fc-cca8d83232ac	1	3 pairs	0
291f1cca-e507-48be-b063-002b14906468	1	3 pairs	1
75122300-0736-4087-b6d8-c0c5373a1a04	0	∅	0
75bc6ebd-40cd-4e1d-a301-27dd93b12e2	1	5 pairs	0
ce965c4d-7a2b-4db6-9847-601747fa7812	1	3 pairs	1
28867d12-27a6-4e6a-a5fb-8bb5440117ae	1	5 pairs	1
5a7a7e13-fbcf-46e4-9093-79799649d6c5	0	∅	0
0143cb8b-bb81-4916-9750-ce956c9f9bd9	0	∅	0
a4ccc1b3-cbb6-449c-b7a5-03af42c97433	1	5 pairs	0
b1dded76-cd60-4222-82cb-f6d464104298	1	3 pairs	0

```
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 q  
LEFT JOIN home_try_on h  
ON q.user_id = h.user_id  
LEFT JOIN purchase p  
ON p.user_id = q.user_id  
LIMIT 10;
```

Question 6--Exploration

Q: What is the most popular color from the purchase table?

project.sqlite

```
1 select color, model_name, count(user_id)
2 from purchase
3 group by 1
4 order by 3 desc;
```

Query Results		
color	model_name	count(user_id)
Jet Black	Lucy	86
Driftwood Fade	Dawes	63
Rosewood Tortoise	Eugene Narrow	62
Rose Crystal	Eugene Narrow	54
Layered Tortoise Matte	Brady	52
Pearled Tortoise	Olive	50
Elderflower Crystal	Lucy	44
Sea Glass Gray	Brady	43
Endangered Tortoise	Monocle	41

Question 6--Exploration

Q: What are the most popular color from the quiz table?

project.sqlite

```
1 select color, shape, count(user_id)
2 from quiz
3 group by 1
4 order by 3 desc;
```

Query Results

color	shape	count(user_id)
Tortoise	Square	292
Black	Round	280
Crystal	Square	210
Neutral	Square	114
Two-Tone	Round	104

Question 6--Exploration

Q: What are the most popular models?

project.sqlite



```
1 select model_name, price,  
   count(user_id)  
2 from purchase  
3 group by 1  
4 order by 3 desc;
```

Query Results

model_name	price	count(user_id)
Eugene Narrow	95	116
Dawes	150	107
Brady	95	95
Lucy	150	86
Olive	95	50
Monocle	50	41

Question 6--Exploration

Q: What is the conversion rate from trying on to purchasing?

```
WITH quiz_to_purchase 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 q  
  LEFT JOIN home_try_on h  
        ON q.user_id = h.user_id  
  LEFT JOIN purchase p  
        ON p.user_id = q.user_id)  
SELECT count(*),  
       100.00*SUM(is_purchase)/SUM(is_home_try_on)  
FROM quiz_to_purchase;
```

Query Results

count(*)	100.00*SUM(is_purchase)/SUM(is_home_try_on)
1000	66.0

Question 6--Exploration

Q: How many people who tried on 3 pairs purchased glasses?

Learn SQL from Scratch: Funnels

project.sqlite

```
1 WITH quiz_to_purchase as (  
2 SELECT q.user_id,  
3        h.user_id IS NOT NULL AS  
4        'is_home_try_on',  
5        h.number_of_pairs,  
6        p.user_id IS NOT NULL AS 'is_purchase'  
7 FROM quiz q  
8 LEFT JOIN home_try_on h  
9   ON q.user_id = h.user_id  
10 LEFT JOIN purchase p  
11   ON p.user_id = q.user_id)  
12 SELECT count(is_purchase)  
13 FROM quiz_to_purchase  
14 where number_of_pairs = '3 pairs';  
15
```

Query Results	
count(is_purchase)	379
Database Schema	
home_try_on 750 rows	
user_id	TEXT
number_of_pairs	TEXT
address	TEXT
purchase 495 rows	
user_id	TEXT
product_id	INTEGER
style	TEXT
model_name	TEXT
color	TEXT
price	INTEGER
survey 1986 rows	
question	TEXT
user_id	TEXT
response	TEXT
quiz 1000 rows	
user_id	TEXT
style	TEXT
fit	TEXT
shape	TEXT
color	TEXT

```
WITH quiz_to_purchase 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 q  
LEFT JOIN home_try_on h  
  ON q.user_id = h.user_id  
LEFT JOIN purchase p  
  ON p.user_id = q.user_id)  
SELECT count(is_purchase)  
FROM quiz_to_purchase  
WHERE number_of_pairs = '3 pairs';
```

Question 6--Exploration

Q: How many people who tried on 5 pairs bought glasses?

Learn SQL from Scratch: Funnels

project.sqlite

```
1 WITH quiz_to_purchase as (  
2 SELECT q.user_id,  
3        h.user_id IS NOT NULL AS  
4        'is_home_try_on',  
5        h.number_of_pairs,  
6        p.user_id IS NOT NULL AS 'is_purchase'  
7 FROM quiz q  
8 LEFT JOIN home_try_on h  
9   ON q.user_id = h.user_id  
10 LEFT JOIN purchase p  
11   ON p.user_id = q.user_id)  
12 SELECT count(is_purchase)  
13 FROM quiz_to_purchase  
14 where number_of_pairs = '5 pairs';  
15
```

Query Results		
count(is_purchase)		
371		
Database Schema		
home_try_on 750 rows		
user_id		TEXT
number_of_pairs		TEXT
address		TEXT
purchase 495 rows		
user_id		TEXT
product_id		INTEGER
style		TEXT
model_name		TEXT
color		TEXT
price		INTEGER
survey 1986 rows		
question		TEXT
user_id		TEXT
response		TEXT
quiz 1000 rows		
user_id		TEXT
style		TEXT
fit		TEXT
shape		TEXT
color		TEXT

```
WITH quiz_to_purchase 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 q  
LEFT JOIN home_try_on h  
   ON q.user_id = h.user_id  
LEFT JOIN purchase p  
   ON p.user_id = q.user_id)  
SELECT count(is_purchase)  
FROM quiz_to_purchase  
WHERE number_of_pairs = '5 pairs';
```