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Usage Funnels with Warby Parker

Learn SQL from Scratch
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1. Getting familiar with Warby Parker

1. Query 1- Quiz Funnel

Warby Parker has a style quiz that has several questions in it, the users' repsonses are shown in a table called survey. What Columns does the table have?
- Questions
- User ID's
- Responses

```
1    SELECT *
2        FROM survey
3        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	Narrow
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

1. Query 2 – Quiz Funnel

Lets analyze the survey table and find the number of responses for each question.

```
1   SELECT question, COUNT(DISTINCT user_id)
2   FROM survey
3   GROUP BY question
4   ORDER BY COUNT(DISTINCT user_id) DESC;
```

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

1. Query 2 Results – Quiz Funnel

Which of the questions has the lowest completion rate?

Question	Number of People who Answered	Percentage of Dropoff
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%

The first question is of the one with the highest completion and the results dwindle down from there.

This could be for various reasons such as:

- They could have lost interest
- They could have got stuck on a question that they either didn't want or know how to answer
- They could of felt the question was not relevant
- Or they could have simply got sidetracked or pulled away

2. What is the Quiz Funnel?

2. Query 1 – What are the column names in the Quiz Funnel?

Table 1 – Quiz
Columns: User ID, Style, Fit, Shape, and Color

Table 2 – Home Try On
Columns: User ID, Number of Pairs, and Address

Table 3 – Purchase
Columns: User ID, Product ID, Style, Model Name, Color, and Price

Quiz				
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

Home Try On		
user_id	number_of_pairs	address
d8addd87-3217-4429-9a01-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-accc-49a7bb46c586	3 pairs	347 Madison Square N
3bc8f97f-2336-4dab-bd86-e391609dab97	5 pairs	182 Cornelia St

Purchase					
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

3. A/B Testing with Home-Try On Funnel

3. Query 1 – Using a Left-Join to combine all three tables

```sql
1   SELECT DISTINCT q.user_id,
2   CASE
3   WHEN h.user_id IS NOT NULL then 'TRUE'
4   ELSE 'FALSE'
5   END AS 'is_home_try_on',
6   h.number_of_pairs,
7   CASE
8   WHEN p.user_id IS NOT NULL then 'TRUE'
9   ELSE 'FALSE'
10  END AS 'is_purchase'
11  FROM quiz q
12  LEFT JOIN home_try_on h
13  ON q.user_id = h.user_id
14  LEFT JOIN purchase p
15  ON p.user_id = q.user_id
16  LIMIT 20;
```

Query Results			
user_id	is_home_try_on	number_of_pairs	is_purchase
4e8118dc-bb3d-49bf-85fc-cca8d83232ac	TRUE	3 pairs	FALSE
291f1cca-e507-48be-b063-002b14906468	TRUE	3 pairs	TRUE
75122300-0736-4087-b6d8-c0c5373a1a04	FALSE	∅	FALSE
75bc6ebd-40cd-4e1d-a301-27ddd93b12e2	TRUE	5 pairs	FALSE
ce965c4d-7a2b-4db6-9847-601747fa7812	TRUE	3 pairs	TRUE
28867d12-27a6-4e6a-a5fb-8bb5440117ae	TRUE	5 pairs	TRUE
5a7a7e13-fbcf-46e4-9093-79799649d6c5	FALSE	∅	FALSE
0143cb8b-bb81-4916-9750-ce956c9f9bd9	FALSE	∅	FALSE
a4ccc1b3-cbb6-449c-b7a5-03af42c97433	TRUE	5 pairs	FALSE
b1dded76-cd60-4222-82cb-f6d464104298	TRUE	3 pairs	FALSE
8fe8b9a7-d5d0-4aeb-a0d2-b8dd43f50a95	FALSE	∅	FALSE
9fc1bcfe-1c3b-4b78-bb3b-af3586c2f05c	TRUE	5 pairs	TRUE
20b03d28-d39c-46cf-81af-9fb479e823c0	TRUE	5 pairs	TRUE
ffe1b116-6f09-4408-9aba-f0d268c67fbe	TRUE	3 pairs	FALSE
f254b8a3-1c02-42a2-8c7e-2a0a5c57f0f9	TRUE	3 pairs	FALSE
78636c3f-a55e-4296-97c7-fd10aac81042	FALSE	∅	FALSE
f35fa92e-8814-412f-864e-dca97a8aea1e	FALSE	∅	FALSE
f7f2dbff-4e8f-4b5c-b443-b54bad9ef9ae	TRUE	5 pairs	TRUE
4e71850e-8bbf-4e6b-accc-49a7bb46c586	TRUE	3 pairs	FALSE
5d9e5c70-9f42-4304-bd34-23ab70a79d34	TRUE	3 pairs	FALSE

4. Actionable Insights for Warby Parker

4. Query 1 – Calculated Converstion Rates across all rows

```sql
1   WITH PURCHASEFUNNEL AS
2   (SELECT DISTINCT q.user_id,
3   h.user_id IS NOT NULL AS 'is_home_try_on',
4   h.number_of_pairs,
5   p.user_id IS NOT NULL AS 'is_purchase'
6   FROM quiz q
7   LEFT JOIN home_try_on h
8   ON q.user_id = h.user_id
9   LEFT JOIN purchase p
10  ON p.user_id = q.user_id)
11  SELECT
12  COUNT(user_id) AS 'Total # of Users',
13  SUM(is_home_try_on) AS 'Total Home Try Ons',
14  SUM(is_purchase) AS 'Total Purchases',
15  1.0 * SUM(is_home_try_on) / COUNT(user_id) AS 'Percentage of Users with Home Try On',
16  1.0 * SUM(is_purchase) / SUM(is_home_try_on) AS 'Percentage of Users with Home Try On that Actually Purchased'
17  FROM PurchaseFunnel;
```

Query Results				
Total # of Users	Total Home Try Ons	Total Purchases	Percentage of Users with Home Try On	Percentage of Users with Home Try On that Actually Purchased
1000	750	495	0.75	0.66

- The total number of Users, 1000, of which 750 (75%) of them were the Home Try On customers

- Of those 750 users, only 495 (66%) went on to purchase a pair.

4. Query 2 – Calculated Converstion Rates for users with Home-Try On

*FACT *
Users that were given 5 pairs for Home Try On are more likely to end up purchasing!

```
1    WITH PURCHASEFUNNEL AS
2    (SELECT DISTINCT q.user_id,
3    h.user_id IS NOT NULL AS 'is_home_try_on',
4    h.number_of_pairs,
5    p.user_id IS NOT NULL AS 'is_purchase'
6    FROM quiz q
7    LEFT JOIN home_try_on h
8    ON q.user_id = h.user_id
9    LEFT JOIN purchase p
10   ON p.user_id = q.user_id)
11   SELECT
12   number_of_pairs AS 'Number Of Pairs',
13   COUNT(user_id) AS 'Total # of Users',
14   SUM(is_home_try_on) AS 'Total Home Try Ons',
15   SUM(is_purchase) AS 'Total Purchases',
16   SUM(ROUND(is_purchase,0)) / SUM(ROUND(is_home_try_on,0)) AS 'Percentage of Users with Home Try On that Actually Purchased'
17   FROM PurchaseFunnel
18   GROUP BY Number_Of_Pairs;
```

Number Of Pairs	Total # of Users	Total Home Try Ons	Total Purchases	Percentage of Users with Home Try On that Actually Purchased
0	250	0	0	0%
3 pairs	379	379	201	53%
5 pairs	371	371	294	79%

- 250 users didn't participate in the Home Try On, 0(0%) of those users went on to purchase

- 379 users participated in 3 Home Try On pairs, 201(53%) of those users went on to purchase

- 371 users participated in 5 Home Try On pairs, 294(79%) of those users went on to purchase

4. Query 3 – What colors were the most purchased?

```
1  SELECT COUNT(style) AS 'Total Purchases', color AS 'Eyewear Color'
2  FROM Purchase
3  GROUP BY color
4  ORDER BY COUNT(style) DESC;
```

Total Purchases	Eyewear Color
86	Jet Black
63	Driftwood Fade
62	Rosewood Tortoise
54	Rose Crystal
52	Layered Tortoise Matte
50	Pearled Tortoise
44	Elderflower Crystal
43	Sea Glass Gray
41	Endangered Tortoise

Jet Black was the most purchased overall at 86 pairs and Endangered Tortoise was the least at 41 pairs.

4. Query 4 & 5 – What styles/colors were the most purchased for broken out styles?

```
1   SELECT COUNT(style) AS 'Total Purchases', style AS 'Eyewear Style', color AS 'Eyewear Color'
2   FROM Purchase
3   WHERE style = "Women's Styles"
4   GROUP BY color
5   ORDER BY COUNT(style) DESC;
```

```
1   SELECT COUNT(style) AS 'Total Purchases', style AS 'Eyewear Style', color AS 'Eyewear Color'
2   FROM Purchase
3   WHERE style = "Men's Styles"
4   GROUP BY color
5   ORDER BY COUNT(style) DESC;
```

Total Purchases	Eyewear Style	Eyewear Color
62	Women's Styles	Rosewood Tortoise
54	Women's Styles	Rose Crystal
50	Women's Styles	Pearled Tortoise
44	Women's Styles	Elderflower Crystal
42	Women's Styles	Jet Black
252		

Total Purchases	Eyewear Style	Eyewear Color
63	Men's Styles	Driftwood Fade
52	Men's Styles	Layered Tortoise Matte
44	Men's Styles	Jet Black
43	Men's Styles	Sea Glass Gray
41	Men's Styles	Endangered Tortoise
243		

The Women's Styles sold slightly more then the Men's at 252. The top selling Women's style color was Rosewood Tortoise at 62 and the top selling Men's style color was Driftwood Fade at 63.

After we break them down by style we see that Jet Black was the top seller overall simply because its available in both styles, Women's and Men's.

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THANKS!

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