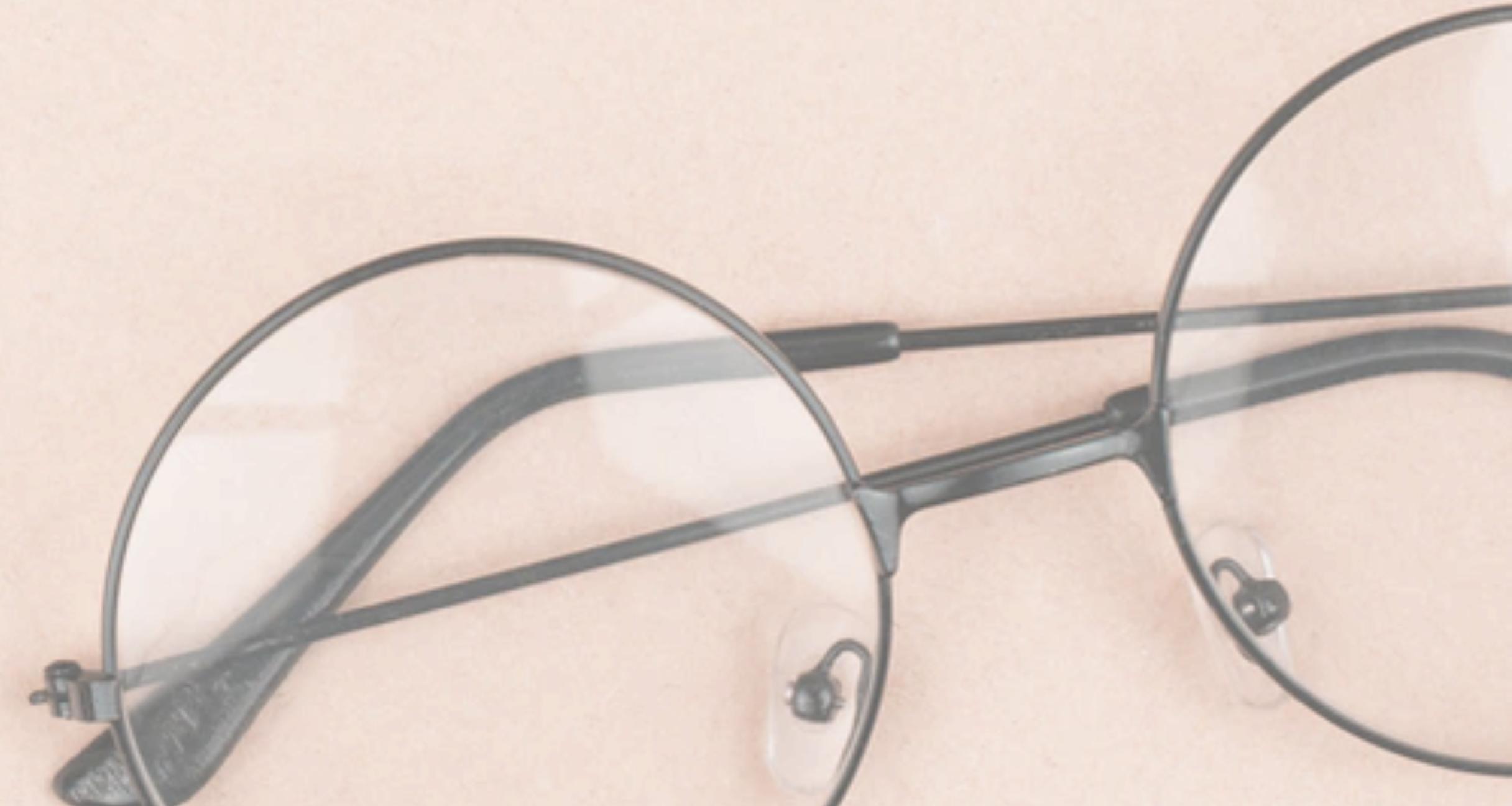


Usage Funnels by SQL

with Warby Parker

by Kueichia Lai





嗨，親愛的閱讀者你們好，我是 Kueichia。這個項目將展示如何使用 SQL 操作真實資料。資料來自於 CodeCademy。

WARBY PARKER 成立於 2010 年，目標是以革命性的價格供應設計師眼鏡，並成為社會意識企業的領頭羊，每售出一副眼鏡和太陽鏡，就向有需要的人發一副。主要透過網路銷售產品，也有線下的實體店。

About the Company

在本項目將以 WARBY PARKER 的不同銷售管道的資料，以漏斗(funnel)的概念分析，計算轉化率(conversion rates)。提供以下表格：

- survey
- quiz
- home_try_on
- purchase

表格內容如後述。

About the Datasets

為了幫助用戶找到心儀的風格，WARBY PARKER
有一個測驗，包含下列問題：

“What are you looking for?”

“What's your fit?”

“Which shapes do you like?”

“Which colors do you like?”

“When was your last eye exam?”

survey	
name	type
question	TEXT
user_id	TEXT
response	TEXT

用戶的回應儲存在檔名survey的表格中。

WARBY PARKER 提供居家試戴眼鏡的服務，為了理解獲得更多眼鏡試戴的用戶是否更有可能購買，進行A/B測試：

50%的用戶會得到3副眼鏡試戴
50%的用戶會得到5副眼鏡試戴

資料分散在 quiz、home_try_on、purchase 三個表格中。

About the Datasets

quiz

name	type
user_id	TEXT
style	TEXT
fit	TEXT
shape	TEXT
color	TEXT

home_try_on

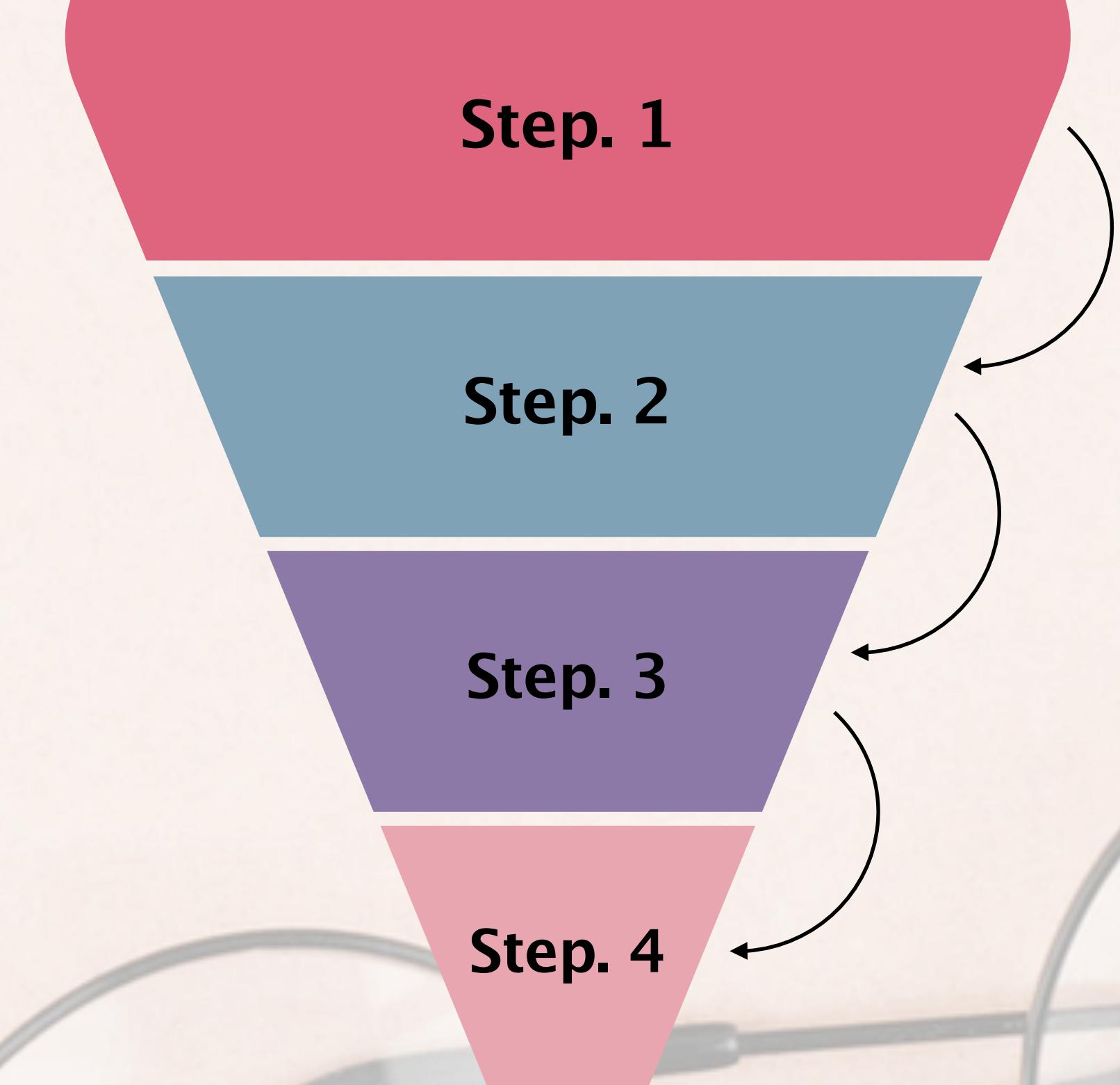
name	type
user_id	TEXT
number_of_pairs	TEXT
address	TEXT

purchase

name	type
user_id	TEXT
product_id	INTEGER
style	TEXT
model_name	TEXT
color	TEXT
price	INTEGER

漏斗(funnel)是一個行銷模型，用理論的方式敘述用戶購買產品或服務的過程，將過程劃分成一系列的步驟，追蹤用戶，了解有多少用戶完成了一系列的步驟，以及哪些步驟放棄的用戶數量最多。

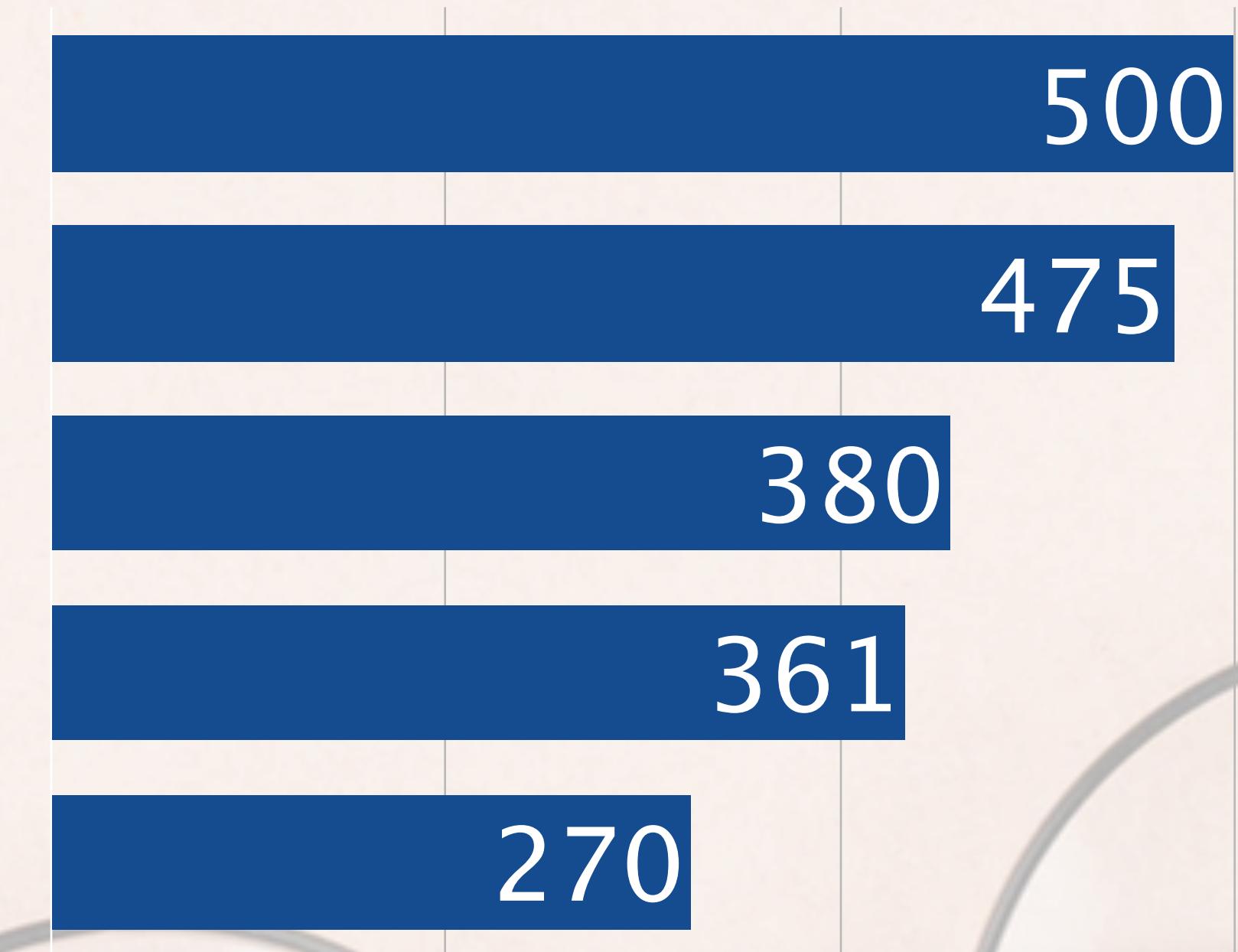
計算方式是將每一步驟完成的人數除以前一步驟完成的人數。可以使用 SQL 來計算每個問題之間的百分比變化，也能使用計算機或在電子試算表計算。



完整填答survey 5個問題的

完成率是 **54%**

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?”



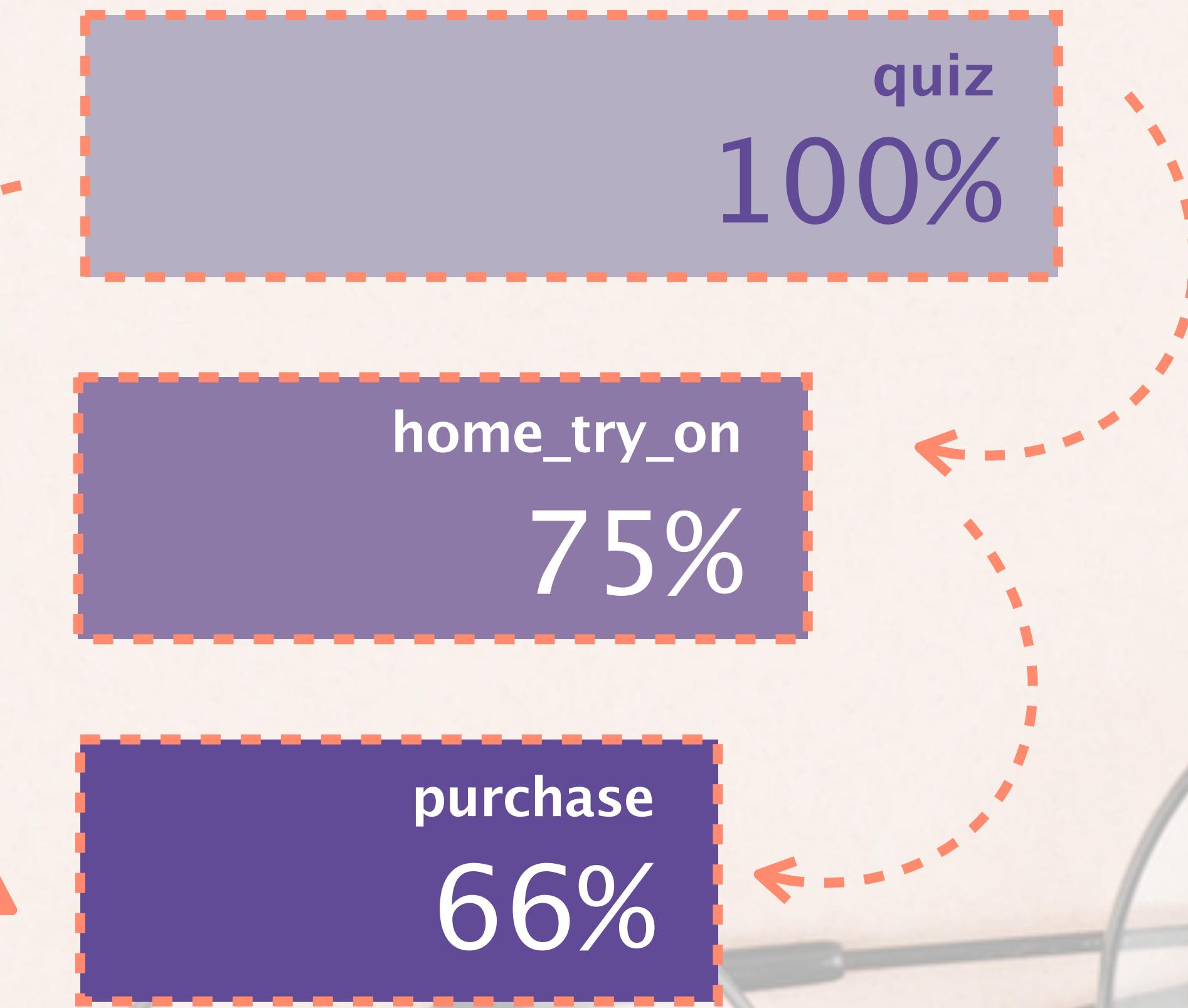
The Query Results: Quiz Funnel

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

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

The Query Results: Quiz Funnel

從填答quiz到購買purchase的
轉化率是 49.5%



The Query Results: Home Try-On Funnel

from quiz to quiz, %	from quiz to try, %	from try to purchase, %	from quiz to purchase, %
100.0	75.0	66.0	49.5

```
WITH 'q' AS
  ( SELECT DISTINCT user_id
    FROM quiz )
SELECT
  ROUND(100.0 * COUNT(q.user_id) /
  COUNT(q.user_id), 2) AS
    'from quiz to quiz, %',
  ROUND(100.0 * COUNT(h.user_id)/
  COUNT(q.user_id), 2) AS
    'from quiz to try, %',
  ROUND(100.0 * COUNT(p.user_id)/
  COUNT(h.user_id), 2) AS
    'from try to purchase, %',
  ROUND(100.0 * COUNT(p.user_id) /
  COUNT(q.user_id), 2) AS
    'from quiz to purchase, %'
FROM 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;
```

The Query Results: Home Try-On Funnel

居家試戴的購買率

WARBY PARKER 提供居家試戴眼鏡的服務，為了理解獲得更多眼鏡試戴的用戶是否更有可能購買，進行A/B測試：

50%的用戶會得到3副眼鏡試戴

50%的用戶會得到5副眼鏡試戴

5副

79.3%

3副

53%

5pairs_try on	5pairs_purchased	purchase rate, %
371	294	79.25

3pairs_try on	3pairs_purchased	purchase rate, %
379	201	53.03

```

WITH 'funnel' AS
( SELECT DISTINCT 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 )
SELECT COUNT(number_of_pairs) AS '5pairs_try on', SUM (is_purchase)
AS '5pairs_purchased',ROUND(100.0 * SUM (is_purchase) /
COUNT(number_of_pairs), 2) AS 'purchase rate, %'
FROM funnel
WHERE number_of_pairs IS '5 pairs';

WITH 'funnel' AS
( SELECT DISTINCT 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 )
SELECT COUNT(number_of_pairs) AS '3pairs_try on', SUM (is_purchase)
AS '3pairs_purchased',ROUND(100.0 * SUM (is_purchase) /
COUNT(number_of_pairs), 2) AS 'purchase rate, %'
FROM funnel
WHERE number_of_pairs IS '3 pairs';

```

The Query Results: Home Try-On Funnel

About Quiz Funnel:

較多用戶在問題#3與#5的時候放棄填答，應改善詢問方式，使用戶更易填答。

About Home Try-On Funnel:

拿到5副眼鏡試戴的用戶，轉化率較3副高，居家試戴寄5副眼鏡給試用者。

Thanks for your attention. :)

