



# Capstone: Attribution

Learn SQL from Scratch

Donald Paff

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# Attribution Queries Part 1:

1a. How many campaigns and sources does CoolTShirts use?

- 8 distinct campaigns

1b. Which source is used for each campaign?

- 6 distinct sources

1c. Which source is used for each campaign? See below.

Campaign	Source
cool-tshirts-search	google
getting-to-know-cool-tshirts	nytimes
interview-with-cool-tshirts-founder	medium
paid-search	google
retargeting-ad	facebook
retargeting-campaign	email
ten-crazy-cool-tshirts-facts	buzzfeed
weekly-newsletter	email

```
-- distinct # of campaigns
SELECT COUNT(DISTINCT utm_campaign)
FROM page_visits;
```

```
-- # of distinct sources
SELECT COUNT(DISTINCT utm_source)
FROM page_visits;
```

```
-- campaigns with their sources
SELECT DISTINCT utm_campaign,
               utm_source
FROM page_visits
GROUP BY utm_campaign;
```

2. What pages are on the CoolTShirts website?

Page Names
1 - landing_page
2 - shopping_cart
3 - checkout
4 - purchase

```
-- distinct page names
SELECT DISTINCT page_name
FROM page_visits;
```

## Attribution Queries Part 2:

3. How many first touches is each campaign responsible for?

```
-- # of first touches per campaign
WITH first_touch AS
    (SELECT user_id,
        MIN(timestamp) as first_touch_at
    FROM page_visits
    GROUP BY user_id),
ft_attr AS (
    SELECT ft.user_id,
        ft.first_touch_at,
        pv.utm_source,
        pv.utm_campaign
    FROM first_touch AS ft
    JOIN page_visits AS pv
        ON ft.user_id = pv.user_id
        AND ft.first_touch_at = pv.timestamp
    )
SELECT ft_attr.utm_source,
    ft_attr.utm_campaign,
    COUNT(*)
FROM ft_attr
GROUP BY 1
ORDER BY 3 DESC;
```

Campaign	# of First Touches
interview-with-cool-tshirts-founder	622
getting-to-know-cool-tshirts	612
ten-crazy-cool-tshirts-facts	576
cool-tshirts-search	169

# Attribution Queries Part 3:

## 4. How many last touches is each campaign responsible for?

```
-- # of last touches per campaign
WITH last_touch AS
    (SELECT user_id,
        MAX(timestamp) as last_touch_at
    FROM page_visits
    GROUP BY user_id),
lt_attr AS (
    SELECT lt.user_id,
        lt.last_touch_at,
        pv.utm_source,
        pv.utm_campaign
    FROM last_touch AS lt
    JOIN page_visits AS pv
        ON lt.user_id = pv.user_id
        AND lt.last_touch_at = pv.timestamp
    )
SELECT lt_attr.utm_source,
    lt_attr.utm_campaign,
    COUNT(*)
FROM lt_attr
GROUP BY 1, 2
ORDER BY 3 DESC;
```

Campaign	# of Last Touches
weekly-newsletter	447
retargeting-ad	443
retargeting-campaign	245
getting-to-know-cool-tshirts	232
ten-crazy-cool-tshirts-facts	190
interview-with-cool-tshirts-founder	184
paid-search	178
cool-tshirts-search	60

# Attribution Queries Part 4:

## 5. How many visitors make a purchase?

```
-- # of visitors that made a purchase
SELECT COUNT(DISTINCT user_id) as
'visitors',
      page_name
FROM page_visits
WHERE page_name LIKE "4 - purchase";
```

### # of Visitors that made a Purchase

361

## 6. How many last touches on the purchase page is each campaign responsible for?

```
-- # of last touches on the purchase
page for each campaign

WITH last_touch AS
      (SELECT user_id,
        MAX(timestamp) as last_touch_at
      FROM page_visits
      WHERE page_name LIKE '4 - purchase'
      GROUP BY user_id),
lt_attr AS (
      SELECT lt.user_id,
        lt.last_touch_at,
        pv.utm_source,
        pv.utm_campaign
      FROM last_touch AS lt
      JOIN page_visits AS pv
        ON lt.user_id = pv.user_id
        AND lt.last_touch_at = pv.timestamp
      )
SELECT lt_attr.utm_source,
      lt_attr.utm_campaign,
      COUNT(*)
FROM lt_attr
GROUP BY 1, 2
ORDER BY 3 DESC;
```

Campaign	Last Touches on Purchase Page
weekly-newsletter	115
retargetting-ad	113
retargetting-campaign	54
paid-search	52
ten-crazy-cool-tshirts-facts	9
getting-to-know-cool-tshirts	9
interview-with-cool-tshirts-founder	7
cool-tshirts-search	2

# Optimizing the Campaign Budget

Which 5 campaigns should CoolTShirts re-invest in?

- Based on the information provided in the previous slide, you can see the top 5 campaigns, listed below, that lead to purchases on the customer's last touch. In order to optimize the campaign budget to prioritize purchases, the below 5 campaigns should be where the re-investment takes place.
  - Weekly-newsletter
  - Retargeting-ad
  - Retargeting-campaign
  - paid search
  - ten-crazy-cool-tshirt-facts

**Thank You**