



# **First- and Last-touch Attribution Project**

Learn SQL from Scratch

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# Get Familiar with CoolTShirts

- 1. How many campaigns does CoolTShirts use?
- 2. How many sources does CoolTShirts use?

```
/* Query 1*/
SELECT COUNT(DISTINCT utm_campaign) AS campaigns_count
FROM page_visits;

/* Query 2*/
SELECT COUNT(DISTINCT utm_source) AS source_count
FROM page_visits;
```

campaigns_count
8

source_count
6

# Get Familiar with CoolTShirts (Cont.)

## Which source is used for each campaign?

Utm\_Source identifies which touchpoint sent the traffic (e.g. google, email, or facebook). Utm\_Campaign identifies the specific ad or email blast (eg. Retargetting-ad or weekly-newsletter)

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

```
SELECT DISTINCT utm_campaign, utm_source AS
campaign_source
FROM page_visits;
```

# Get Familiar with CoolTShirts (Cont.)

What pages are on the CoolTShirts website?

```
SELECT DISTINCT page_name
FROM page_visits;
```

page_name
1 - landing_page
2 - shopping_cart
3 - checkout
4 - purchase

## What is the user journey(Cont.)

How many first touches is each campaign responsible for?

utm_campaign	utm_source	num_first_touch
cool-tshirts-search	google	169
ten-crazy-cool-tshirts-facts	buzzfeed	576
getting-to-know-cool-tshirts	nytimes	612
interview-with-cool-tshirts-founder	medium	622

```
WITH first_touch AS (  
  SELECT user_id,  
         MIN(timestamp) as first_touch_at  
  FROM page_visits  
  GROUP BY user_id)  
  
SELECT pv.utm_campaign, pv.utm_source,  
       COUNT(*) AS num_first_touch  
FROM first_touch ft  
JOIN page_visits pv  
  ON ft.user_id = pv.user_id  
 AND ft.first_touch_at = pv.timestamp  
GROUP BY pv.utm_campaign, pv.utm_source  
ORDER BY 3;
```

## What is the user journey (Cont.)

How many last touches is each campaign responsible for?

utm_source	utm_campaign	num_last_touch
google	cool-tshirts-search	60
google	paid-search	178
medium	interview-with-cool-tshirts-founder	184
buzzfeed	ten-crazy-cool-tshirts-facts	190
nytimes	getting-to-know-cool-tshirts	232
email	retargetting-campaign	245
facebook	retargetting-ad	443
email	weekly-newsletter	447

```
WITH last_touch AS (  
  SELECT user_id, MAX(timestamp) as last_touch_at  
  FROM page_visits  
  GROUP BY user_id)
```

```
SELECT pv.utm_source, pv.utm_campaign,  
  COUNT(*) AS num_last_touch  
FROM last_touch lt  
JOIN page_visits pv  
ON lt.user_id = pv.user_id  
AND lt.last_touch_at = pv.timestamp  
GROUP BY pv.utm_source, pv.utm_campaign  
ORDER BY 3;
```

# What is the user journey(Cont.)

How many visitors make a purchase?

num_user_purchase
361

```
SELECT COUNT(DISTINCT user_id) AS num_user_purchase
FROM page_visits
WHERE page_name = '4 - purchase';
```



## What is the user journey(Cont.)

How many last touches *on the purchase page* is each campaign responsible for?

utm_source	utm_campaign	num_last_touch_on_purchase
google	cool-tshirts-search	2
medium	interview-with-cool-tshirts-founder	7
buzzfeed	ten-crazy-cool-tshirts-facts	9
nytimes	getting-to-know-cool-tshirts	9
google	paid-search	52
email	retargeting-campaign	53
facebook	retargeting-ad	112
email	weekly-newsletter	114

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

## What is the user journey(Cont.)

What is the typical user journey?

Most user initially discover the website through nytime, medium and buzzfeed, and most visitors are drawn back to the website from facebook and email.

## Optimize the Campaign Budget

**CoolTShirts can re-invest in 5 campaigns. Which should they pick and why?**

We should pick weekly newsletter, retargeting-ad, retargeting-campaign and paid-search, since they are responsible for more last touch on the purchase page. The fifth one, comparing with getting-to-know-cool-tshirts and ten-crazy-cool-tshirts-facts, since getting-to-know-cool-tshirts is responsible for more first touch and last touch, it should be fifth candidate.