



Learn SQL from Scratch

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1. Get familiar with CoolTShirts

How many campaigns and sources does CoolTShirts use and how are they related?

1.1 How many campaigns does CoolTShirts use?

Query Results

campaign
cool-tshirts-search
getting-to-know-cool-tshirts
interview-with-cool-tshirts-founder
paid-search
retargeting-ad
retargeting-campaign
ten-crazy-cool-tshirts-facts
weekly-newsletter

8 campaigns

```
SELECT DISTINCT utm_campaign AS campaign
FROM page_visits
ORDER BY 1;
```

1.2 How many sources does CoolTShirts use?

Query Results

source
buzzfeed
email
facebook
google
medium
nytimes

```
SELECT DISTINCT utm_source AS source
FROM page_visits
ORDER BY 1;
```

6 sources

1.3 How are Campaigns and Sources related?

Query Results

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

```
SELECT DISTINCT utm_campaign AS campaign,  
                utm_source AS source  
FROM page_visits  
ORDER BY 1;
```

Each campaign has a single source total 8 campaign source combinations.

Campaign is the ad campaign and the source is the type of technology/application used.

1.4 What pages are on their website?

Query Results

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

```
SELECT DISTINCT page_name  
FROM page_visits  
ORDER BY 1;
```


2. What is the user journey?

2.1 How many first touches is each campaign responsible for?

Query Results

source	campaign	first_touch
medium	interview-with-cool-tshirts-founder	622
nytimes	getting-to-know-cool-tshirts	612
buzzfeed	ten-crazy-cool-tshirts-facts	576
google	cool-tshirts-search	169

```
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 ft
  JOIN page_visits pv
  ON ft.user_id = pv.user_id
  AND ft.first_touch_at = pv.timestamp
)
SELECT ft_attr.utm_source AS source,
       ft_attr.utm_campaign AS campaign,
       COUNT(*) AS first_touch
FROM ft_attr
GROUP BY 1, 2
ORDER BY 3 DESC;
```

2.2 How many last touches is each campaign responsible for?

Query Results

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

```
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 lt  
JOIN page_visits pv  
  ON lt.user_id = pv.user_id  
  AND lt.last_touch_at = pv.timestamp  
)  
SELECT lt_attr.utm_source AS source,  
       lt_attr.utm_campaign AS campaign,  
       COUNT(*) AS last_touch_count  
FROM lt_attr  
GROUP BY 1, 2  
ORDER BY 3 DESC;
```

2.3 How many visitors make a purchase?

Query Results

visitors_who_made_purchase
361

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

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

Query Results

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

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

What is the typical user journey?

The typical user journey starts from the source medium, nytimes, buzzfeed and google. The last touches primary sources are email and facebook, and the last touches with purchase primary sources are email and facebook.

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

I would pick interview-with-cool-shirts-founder, getting-to-know-cool-tshirts and ten-crazy-cool-tshirts-feeds because they drove a lot of initial traffic to the site. I would then pick weekly-newsletter and retargeting-ad because they were last touches that ended in a purchase.