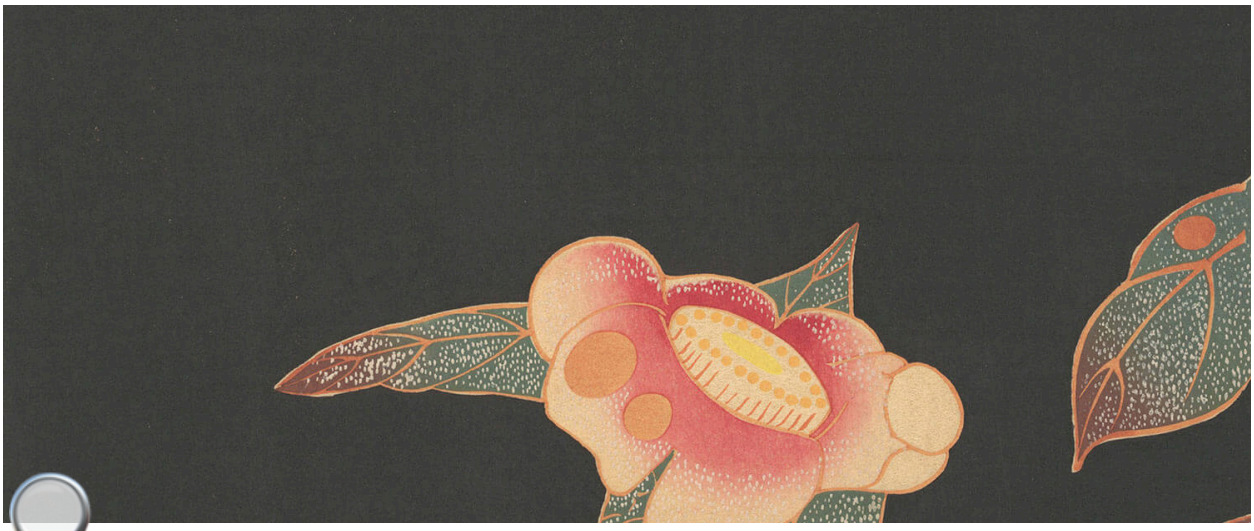


Exploratory Data Analysis (SQL)

```
-- Max total laid off
select MAX(total_laid_off)
from layoffs_staging;
```

	(No column name)
1	12000

The most number of layoffs in one day was 12K

```
-- Max total laid off & Max percentage laid off
select MAX(total_laid_off), MAX(percentage_laid_off)
from layoffs_staging;
```

	(No column name)	(No column name)
1	12000	1

That highest percentage of layoffs is essentially 100% of the company. This implies that those companies went bankrupt

```
-- Companies that liad off entire company
select *
from layoffs_staging
where percentage_laid_off = 1;

-- Number of companies that laid off all of their employees
select count(*)
from layoffs_staging
where percentage_laid_off = 1;
```

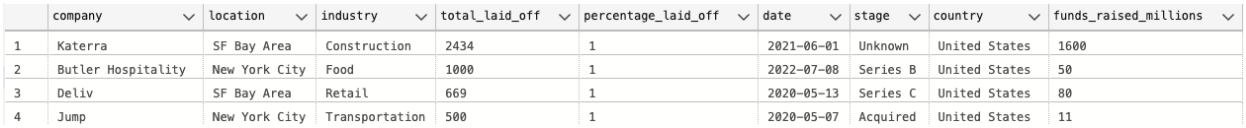
	company	location	industry	total_laid_off	percentage_laid_off	date	stage	country	funds_raised_millions
1	Ahead	SF Bay Area	Healthcare	44	1	2022-04-14	Unknown	United States	9
2	Airlift	Lahore	Logistics	*NULL*	1	2022-07-12	Series B	Pakistan	109
3	Airy Rooms	Jakarta	Travel	*NULL*	1	2020-05-07	Unknown	Indonesia	*NULL*
4	Amplero	Seattle	Marketing	17	1	2020-03-29	Series B	United States	25
5	Arch Oncology	Brisbane	Healthcare	*NULL*	1	2023-01-13	Series C	United States	155
6	Assure	Salt Lake City	Finance	*NULL*	1	2022-11-23	Seed	United States	2
7	Atsu	Seattle	Infrastructure	6	1	2020-04-10	Unknown	United States	1
8	Aura Financial	SF Bay Area	Finance	*NULL*	1	2021-01-11	Unknown	United States	584
9	Automatic	SF Bay Area	Transportation	*NULL*	1	2020-05-01	Acquired	United States	24
10	Awok	Dubai	Retail	*NULL*	1	2020-09-02	Series A	United Arab E…	30

	(No column name)
1	116

There are 116 companies that laid off all of their employees

```
-- Of the 116 companies, which had the largest amount of employees laid off at o
select *
from layoffs_staging
```

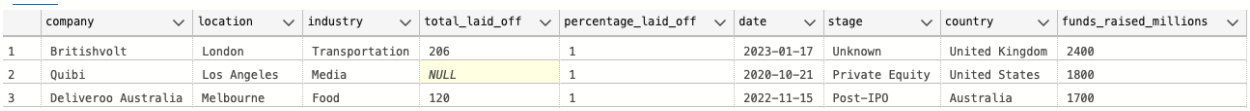
```
where percentage_laid_off = 1
order by total_laid_off desc;
```



	company	location	industry	total_laid_off	percentage_laid_off	date	stage	country	funds_raised_millions
1	Katerra	SF Bay Area	Construction	2434	1	2021-06-01	Unknown	United States	1600
2	Butler Hospitality	New York City	Food	1000	1	2022-07-08	Series B	United States	50
3	Deliv	SF Bay Area	Retail	669	1	2020-05-13	Series C	United States	80
4	Jump	New York City	Transportation	500	1	2020-05-07	Acquired	United States	11

Of the 116 companies, Katerra laid off the most employees at 2,434.

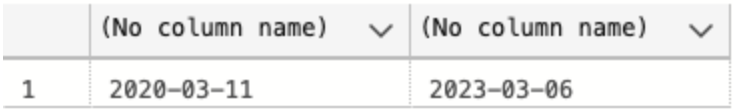
```
-- Funding for companies that laid off entire staff
select *
from layoffs_staging
where percentage_laid_off = 1
order by try_cast(replace(funds_raised_millions, ',', '') as float) desc;
```



	company	location	industry	total_laid_off	percentage_laid_off	date	stage	country	funds_raised_millions
1	Britishvolt	London	Transportation	206	1	2023-01-17	Unknown	United Kingdom	2400
2	Quibi	Los Angeles	Media	*NULL*	1	2020-10-21	Private Equity	United States	1800
3	Deliveroo Australia	Melbourne	Food	120	1	2022-11-15	Post-IPO	Australia	1700

Britishvolt is a UK based transportation company that had $2.4B in funding but laid off their entire company in 2023

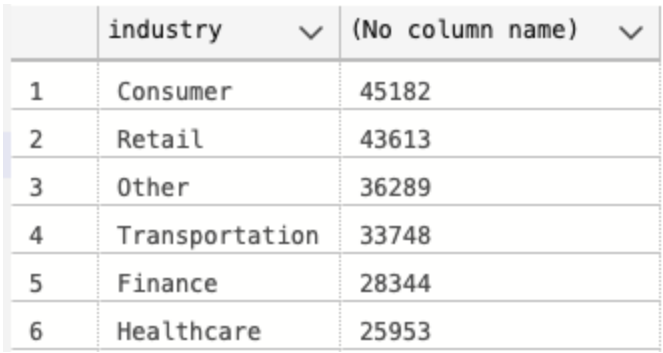
```
-- When did layoffs start & when did they last occur? --
select min([date]), max([date])
from layoffs_staging
```



	(No column name)	(No column name)
1	2020-03-11	2023-03-06

Based on this dataset, the layoffs started March of 2020 & the most recent layoff was in March of 2023

```
-- Which industry got hit the hardest? --
select industry, sum(total_laid_off)
from layoffs_staging
group by industry
order by 2 desc;
```



	industry	(No column name)
1	Consumer	45182
2	Retail	43613
3	Other	36289
4	Transportation	33748
5	Finance	28344
6	Healthcare	25953

Consumer & Retail were the industries that had the most layoffs. This is reasonable since the pandemic was in 2020 and this dataset recorded layoffs from 2020-2023.

```
-- Which country had the highest # of layoffs?
select country, sum(total_laid_off)
from layoffs_staging
group by country
order by 2 desc;
```

	country	(No column name)
1	United States	256559
2	India	35993
3	Netherlands	17220
4	Sweden	11264
5	Brazil	10391

The U.S. had the highest number of layoffs followed by India, Netherlands, and Sweden.

```
---Layoffs by Year
select year([date]), sum(total_laid_off)
from layoffs_staging
group by year([date])
order by 1 desc;
```

	(No column name)	(No column name)
1	2023	125677
2	2022	160661
3	2021	15823
4	2020	80998
5	*NULL*	500

2022 had the highest number of layoffs at 160,661. With only 3 months of data in 2023, there's already 125,667 layoffs which is likely to increase throughout the year.

```
-- Stage of the Company
select stage, sum(total_laid_off)
from layoffs_staging
```

```
group by stage
order by 2 desc;
```

“Series A, B, and C are funding rounds that generally follow "seed funding" and "angel investing," providing outside investors the opportunity to invest cash in a growing company in exchange for equity or partial ownership” - Investopedia

- Series A typically starts off at $18-22 million in funding and it increases from there

	stage	(No column name)
1	Post-IPO	204132
2	Unknown	40716
3	Acquired	27576
4	Series C	20017
5	Series D	19225

Most of the layoffs in this dataset are from companies that are Post-IPO (initial public offering), companies that have transitioned from private to public. Typically large companies, like Amazon & Google

```
-- Data Manipulation on Date column using CTE
with date_cte as (
   select total_laid_off,
   convert(varchar, [date], 23) as date_string, -- converts date data type to a strir
   left(convert(varchar, [date], 23), 7) as year_month-- Extracts 'YYYY-MM'
   from layoffs_staging
)

-- Looking at total layoffs based on months across the 3 years
select year_month, sum(total_laid_off) as total_layoffs
from date_cte
where year_month is not null
```

```
group by year_month
order by 1 asc
```

	year_month	total_layoffs
1	2020-03	9628
2	2020-04	26710
3	2020-05	25804
4	2020-06	7627
5	2020-07	7112
6	2020-08	1969

The table above displays the layoffs within each month across 3 years. Starting in March of 2020, there were 9,628 layoffs.

```
-- first cte maniuplating Date column
with date_cte as
(
select
    total_laid_off,
    convert(varchar, [date], 23) as date_string, -- converts date data type to a strir
    left(convert(varchar, [date], 23), 7) as year_month-- Extracts 'YYYY-MM' --
from layoffs_staging
),

-- rolling total cte uses date_cte to look at total layoffs per month
rolling_total AS
(
select
    year_month,
    sum(total_laid_off) as total_layoffs
from date_cte
where year_month is not null
group by year_month
```

```
)

-- call rolling total cte to get a rolling sum of layoffs
select
    year_month,
    total_layoffs,
    sum(total_layoffs) over(order by year_month) as rolling_total
from rolling_total
order by year_month asc;
```

	year_month	total_layoffs	rolling_total
1	2020-03	9628	9628
2	2020-04	26710	36338
3	2020-05	25804	62142
4	2020-06	7627	69769
5	2020-07	7112	76881
6	2020-08	1969	78850
7	2020-09	609	79459

The total_layoffs column shows the layoffs for that specific month & year.

The rolling_total column is showing a month-by-month progression of the layoffs. Each subsequent month takes the sum of the layoffs in prior months.

Year	End # of Layoffs
2020	80,998
2021	96,821
2022	257,482
2023	383,159

2020 started with 9,628 layoffs but ended with 80,998 employees laid off. By the end of 2021 there were 96,821 employees laid off. There were 15,823 layoffs in 2021 alone. Layoffs continued to escalate. At the end of 2022 there were 257,482 layoffs. 2022 had a total of 160,661 recorded layoffs based on this dataset. Within the 3 months of 2023 there was a total of 125,677 recorded layoffs.

```
-- Total layoffs grouped by company per year
select company, year(layoffs_staging.date) as years, sum(total_laid_off) as sum_l
from layoffs_staging
group by company, year(layoffs_staging.date)
order by company asc;
```

	company	years	sum_laid_off
1	#Paid	2023	19
2	&Open	2022	9
3	100 Thieves	2022	12
4	10X Genomics	2022	100

Some companies had layoffs in multiple years. Next, we'll the above query to rank the years where the most employees were laid off.

```
--Years where the most employees were laid off
select company, year(layoffs_staging.date) as years, sum(total_laid_off) as sum_l
from layoffs_staging
group by company, year(layoffs_staging.date)
order by sum_laid_off desc;
```

	company	years	sum_laid_off
1	Google	2023	12000
2	Meta	2022	11000
3	Amazon	2022	10150
4	Microsoft	2023	10000
5	Ericsson	2023	8500

Big tech companies had the highest number of layoffs across multiple years. We want to rank the year based on the number of layoffs with the first rank being the

year the highest number of layoffs.

```
-- Rank the years based on number of layoff
with company_year (company, years, total_laid_off) as
(
  select
      company,
      year(layoffs_staging.date),
      sum(total_laid_off)
   from layoffs_staging
   group by company, year(layoffs_staging.date)
),

Company_Year_Rank as
(
select *, dense_rank() over(partition by years order by total_laid_off desc) as Ran
from company_year
where years is not null
)

-- Look at the top 5 rankings
select *
from Company_Year_Rank
where Ranking <=5;
```

	company	years	total_laid_off	Ranking
1	Uber	2020	7525	1
2	Booking.com	2020	4375	2
3	Groupon	2020	2800	3
4	Swiggy	2020	2250	4
5	Airbnb	2020	1900	5
6	Bytedance	2021	3600	1
7	Katerra	2021	2434	2
8	Zillow	2021	2000	3
9	Instacart	2021	1877	4
10	WhiteHat Jr	2021	1800	5
11	Meta	2022	11000	1
12	Amazon	2022	10150	2
13	Cisco	2022	4100	3
14	Peloton	2022	4084	4
15	Philips	2022	4000	5
16	Carvana	2022	4000	5
17	Google	2023	12000	1
18	Microsoft	2023	10000	2
19	Ericsson	2023	8500	3
20	Amazon	2023	8000	4
21	Salesforce	2023	8000	4
22	Dell	2023	6650	5

The top 5 companies with highest number of layoffs for each year is shown above. In 2020, Uber & Booking.com were the two companies that laid off the most. 2022 and 2023 had the highest number of layoffs. In 2022, tech companies began their layoffs with starting with Meta and Amazon. There was a tie between Philips and Carvana for a total of 4,000 layoffs each. More tech companies began to layoff in 2023 such as Google, Microsoft, Ericsson, etc. Although the data comprises of only the first 3 months of 2023, Google - which is ranked number 1 in 2023 -surpasses the amount of layoffs Amazon had by an additional 1,000 employees.