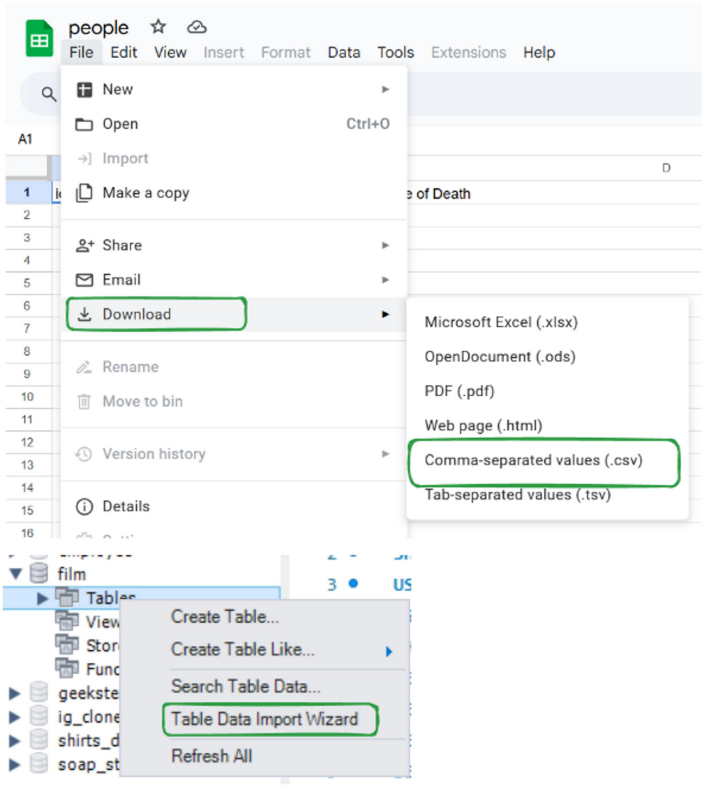
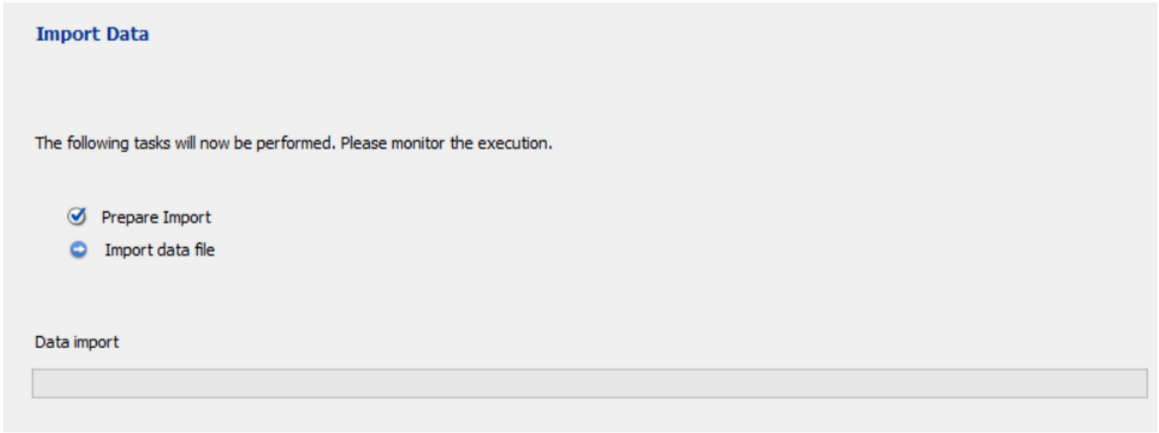
Filtering Text Data & Nulls

people .csv - Now try to import this data into workbench.





DESC people;
SHOW * FROM people;

```
mysql> DESC people;
+---------------+------+------+-----+---------+-------+
| Field         | Type | Null | Key | Default | Extra |
+---------------+------+------+-----+---------+-------+
| id            | int  | YES  |     | NULL    |       |
| Name          | text | YES  |     | NULL    |       |
| Date of Birth | text | YES  |     | NULL    |       |
| Date of Death | text | YES  |     | NULL    |       |
+---------------+------+------+-----+---------+-------+
```

"varchar(256)"

```
1 • USE FILM;
2 • DESC people;
3 • SELECT * FROM people;
```

Result Grid | Filter Rows: | Export: | Wrap Cell Content: | Fetch rows:

	id	Name	Date of Birth	Date of Death
▶	1	Cent	1975-07-06	
	2	AMichaelBaldwin	1963-04-04	
	3	ARavenCruz		
	4	AJBuckley	1978-02-09	
	5	AJDeLucia		
	6	AJLanger	1974-05-22	
	7	Aaliyah	1979-01-16	2001-08-25
	8	AaronAshmore	1979-10-07	

LIKE, NOT LIKE and IN operators:-

How Alexa Works

My phone recommends auto filling while writing

Google searches recommends

Like

_____ % _____ Honest _____ % _____

wildcard - % stands for 0 or multiple characters.

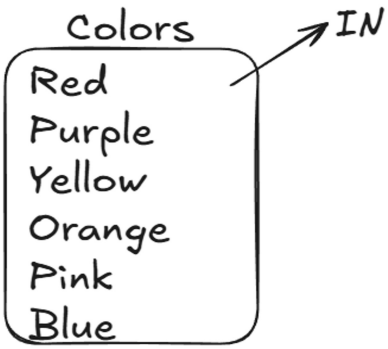
%

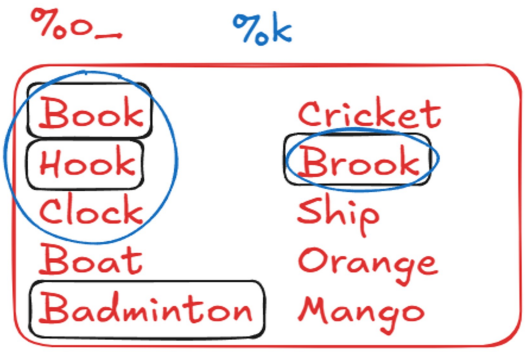
~~Harry Potter and the Philosopher's~~ Stone %

Choc_late

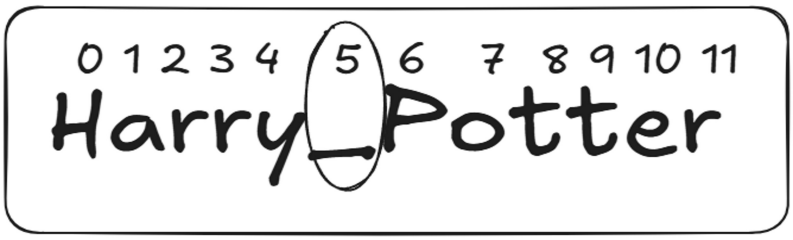
_ wildcard is used it replace one character.

G__kster





Select * from Books where title like "%potter%"



%ing

Fixing, matching , smiling , boxing , gambling , loving , driving , racing , daring , hanging , lifting , doing , dating , teaching , eating.

Kid% - Kidnapping , kidnap , kidding , kids , kidney , etc.

%on% - front , someone , gone , summon , done , onion , cannon , common

1. **Percent Wildcard (%)**: The percent wildcard represents zero, one, or multiple characters in the text. When used
   of characters. Here's how it works:
   - `%` matches zero, one, or multiple characters.
   - `%adel` matches any text that ends with "adel".
   - `adel%` matches any text that starts with "adel".
   - `%adel%` matches any text that contains "adel" anywhere within it.

   For example, if you have a table of names and you want to find all names that start with "Adel", you can use `LIK`
   and any other name that starts with "Adel".
2. **Underscore Wildcard (_)**: The underscore wildcard represents a single character in the text. It matches exactly
   - `_` matches any single character.
   - `_a` matches any two-character sequence that ends with "a", such as "ba", "ca", etc.
   - `a_` matches any two-character sequence that starts with "a", such as "ab", "ac", etc.
   - `_a_` matches any three-character sequence where "a" is the middle character, such as "bab", "cac", etc.

   For example, if you want to find all names that have "a" as the second letter, you can use `LIKE '_a%'`.

```
mysql> SELECT name FROM people where name like "Ade%"
    -> ;
+--------------+
| name         |
+--------------+
| AdelKaram    |
| AdelaideKane |
| AdenYoung    |
+--------------+
```

```
mysql> SELECT name FROM people where name like "%Ade";
+--------------------+
| name               |
+--------------------+
| ArielGade          |
| CelinaJade         |
| DavidSlade         |
| EmilyMeade         |
| FernandaAndrade    |
| JeanHuguesAnglade  |
| JizelleJade        |
| RichardAyoade      |
| TravisAaronWade    |
+--------------------+
```

```
mysql> SELECT name FROM people where name like "%Ade%";
+--------------------+
| name               |
+--------------------+
| AdelKaram          |
| AdelaideKane       |
| AdenYoung          |
| AlissaDean         |
| AlyciaDebnamCarey  |
| AmandaDetmer       |
| AnadelaReguera     |
| AnnaMadeley        |
| ArielGade          |
| BernadettePeters   |
| BolajiBadejo       |
| CaraDelevingne     |
| CelinaJade         |
| CharlesAdelman     |
| DanaDelany         |
| DavidSlade         |
| DaynaDevon         |
| DiedrichBader      |
| DreadeMatteo       |
| EmilyMeade         |
| EmmadeCaunes       |
| FernandaAndrade    |
| IndiadeBeaufort    |
| JadeKindarMartin   |
| JadenKlein         |
| JeanHuguesAnglade  |
| JessicaDeGouw      |
| JizelleJade        |
| KaDeeStrickland    |
| LorettaDevine      |
| MadeleineAlbright  |
```

```
"%Ade_%";
```

%Ade%

%a
%a%
a%
_a
_a_
_a
%a_
_a%

kidnap packing

%o% -- mango

can replace 0 character

_ can be replace by 1 character.

```
SELECT name FROM people where name like "%s%";
XavierBeauvois
```

```
mysql> SELECT name
    -> FROM people
    -> WHERE name LIKE 'Ev_';
+------+
| name |
+------+
| Eve  |
+------+
```

```
mysql> SELECT name
    -> FROM people
    -> WHERE name NOT LIKE 'A%';
+-----------------------------+
| name                        |
+-----------------------------+
| Cent                        |
| lexAngulo                   |
| lexdelaIglesia              |
| ngelaMolina                 |
| BJNovak                     |
| BabakNajafi                 |
| BabarAhmed                  |
| BahareSeddiqi               |
```

"" == '' [You can search for the pattern with single quote or double quote. No difference]

```
mysql> SELECT Count(*) FROM people;
+----------+
| Count(*) |
+----------+
|     8397 |
+----------+
```

Aggregation Functions

```
mysql> SELECT name
    -> FROM people
    -> WHERE name LIKE '%r';
+-------------------------+
| name                    |
+-------------------------+
| AJLanger                |
| AaronSchneider          |
| AaronSeltzer            |
| AbigailSpencer          |
| AdamBoyer               |
| AdamButcher             |
| AdamRayner              |
| AdamSandler             |
```

Not Like

```
882 rows in set (0.01 sec)
```

8397 - 882 = 7515

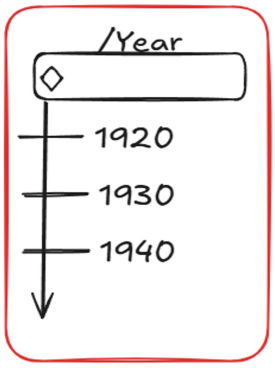
IN operator - Replacing multiple "OR".
[Choosing the result as per limited options.]

select name from people where name not like "_a";

```
mysql> select name from people where name like "_a";
Empty set (0.01 sec)
```

Empty Set.
Now if I write "NOT LIKE"
That means we are negating the empty set resulting into all data.

Data Validation



Cell - Calendar

Range

```
mysql> SELECT title , year
    -> FROM films
    -> WHERE year IN (1920, 1930, 1940);
+---------------------------------+------+
| title                           | year |
+---------------------------------+------+
| Over the Hill to the Poorhouse  | 1920 |
| Hell's Angels                   | 1930 |
| Boom Town                       | 1940 |
| Fantasia                        | 1940 |
| Pinocchio                       | 1940 |
| Rebecca                         | 1940 |
| The Blue Bird                   | 1940 |
+---------------------------------+------+
7 rows in set (0.00 sec)
```

NOT IN -- negate

```
mysql> SELECT title , country
    -> FROM films
    -> WHERE country IN ('Germany', 'France');
+-----------------------------------------------+---------+
| title                                         | country |
+-----------------------------------------------+---------+
| Metropolis                                    | Germany |
| Pandora's Box                                 | Germany |
| The Train                                     | France  |
| Une Femme MariÃƒÂ©e                            | France  |
| Pierrot le Fou                                | France  |
| Barbarella                                    | France  |
| Mississippi Mermaid                           | France  |
| Subway                                        | France  |
| JFK                                           | France  |
| Killing Zoe                                   | France  |
| Les visiteurs                                 | France  |
| Assassins                                     | France  |
| Jefferson in Paris                            | France  |
```

```
mysql> SELECT title , country , year
    -> FROM films
    -> WHERE title like "%s" AND Year NOT IN (1920);
+-----------------------------------------------------------------+----------------------+------+
| title                                                           | country              | year |
+-----------------------------------------------------------------+----------------------+------+
| Intolerance: Love's Struggle Throughout the Ages                | USA                  | 1916 |
| Metropolis                                                      | Germany              | 1927 |
| Hell's Angels                                                   | USA                  | 1930 |
| A Farewell to Arms                                              | USA                  | 1932 |
| Modern Times                                                    | USA                  | 1936 |
| Snow White and the Seven Dwarfs                                 | USA                  | 1937 |
| The Best Years of Our Lives                                     | USA                  | 1946 |
| Quo Vadis                                                       | USA                  | 1951 |
| The Beast from 20,000 Fathoms                                   | USA                  | 1953 |
| Pocketful of Miracles                                           | USA                  | 1961 |
| The Misfits                                                     | USA                  | 1961 |
| Tom Jones                                                       | UK                   | 1963 |
| A Fistful of Dollars                                            | Italy                | 1964 |
| Mary Poppins                                                    | USA                  | 1964 |
| A Man for All Seasons                                           | UK                   | 1966 |
| Yours, Mine and Ours                                            | USA                  | 1968 |
```

<> != [NOT Equal]

=! -- This is wrong

```
mysql> select title,country,year from films where title like "%s" and year not like "1920";
+-----------------------------------------------------------------------+----------------------+------+
| title                                                                 | country              | year |
+-----------------------------------------------------------------------+----------------------+------+
| Intolerance: Love's Struggle Throughout the Ages                      | USA                  | 1916 |
| Metropolis                                                            | Germany              | 1927 |
| Hell's Angels                                                         | USA                  | 1930 |
| A Farewell to Arms                                                    | USA                  | 1932 |
| Modern Times                                                          | USA                  | 1936 |
| Snow White and the Seven Dwarfs                                       | USA                  | 1937 |
| The Best Years of Our Lives                                           | USA                  | 1946 |
| Quo Vadis                                                             | USA                  | 1951 |
| The Beast from 20,000 Fathoms                                         | USA                  | 1953 |
| Pocketful of Miracles                                                 | USA                  | 1961 |
| The Misfits                                                           | USA                  | 1961 |
| Tom Jones                                                             | UK                   | 1963 |
| A Fistful of Dollars                                                  | Italy                | 1964 |
```

Handling NULL values

Understanding NULL values is crucial for working with databases as they often

In SQL, a missing or unknown value is represented by the keyword "NULL." So, unknown.

Imagine you are working with a database, and some information is missing. Th unknown. Knowing how to handle these missing values is essential because th `NULL` and `IS NOT NULL` operators with the `WHERE` clause to work with NULL va

Example: We can find names without a recorded birthdate in our table.

```sql
SELECT name
FROM people
WHERE Birth_date IS NULL;
```

```
mysql> ALTER TABLE people CHANGE COLUMN `Date of Birth` `birth_date` text;
Query OK, 0 rows affected (0.05 sec)
Records: 0  Duplicates: 0  Warnings: 0

mysql> DESC people;
+---------------+------+------+-----+---------+-------+
| Field         | Type | Null | Key | Default | Extra |
+---------------+------+------+-----+---------+-------+
| id            | int  | YES  |     | NULL    |       |
| Name          | text | YES  |     | NULL    |       |
| birth_date    | text | YES  |     | NULL    |       |
| Date of Death | text | YES  |     | NULL    |       |
+---------------+------+------+-----+---------+-------+
4 rows in set (0.00 sec)
```