



**Mini projet :**

# Data API YouTube

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# Plan:

1.Introduction

2.Dictionnaire de Données

3.Model Conceptuel de Données (MCD)

4.Model Logique de Données (MLD)

5.Les requêtes

# 1.Introduction :

L'objectif de cette mini projet consiste a crée une Base de données pour faire le stockage et l'analyse des vidéos (et leurs commentaires) correspondant à son mot-clé (ou groupe de mots-clés) et ayant été publiés pendant la plage de dates spécifiée. Et pour arriver à cette objectif on a suggéré un model conceptuel de données (MCD), et après on a transformé cette le MCD au model conceptuel de données (MLD), et on a gérée les requêtes correspondants a créé les tableaux (relations) dans le SGBD(MySql).

Et pour l'insertion et le stockage des données on a utilisé NodeJs et le package Google API pour obtenir les informations des vidéos sous format JSON, et le package MySql pour faire connecte la base de données qu'on a crée au NodeJs.

## 2.Dictionnaire de Données :

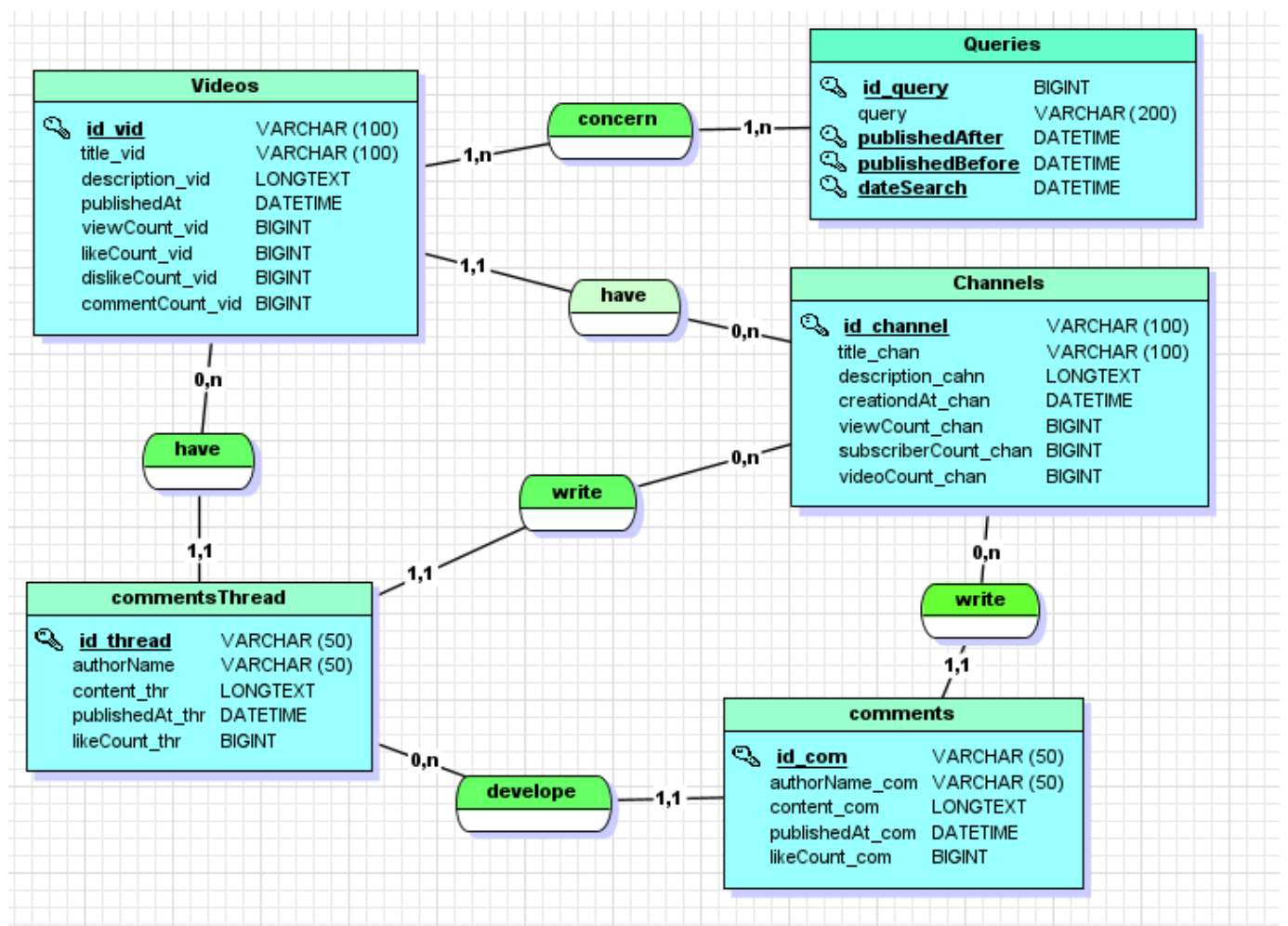
Le Tableau des dictionnaires des données suivant contient les attributs de chaque table avec ses descriptions :

Attribut	Type	Description
id_query	varchar	
publishedAfter	datetime	The <b>publishedAfter</b> parameter indicates that the API response should only contain resources created at or after the specified time
PublishedBefore	datetime	The <b>publishedBefore</b> parameter indicates that the API response should only contain resources created before or at the specified time.
dateSearch	datetime	
id_channel	varchar	Specifie the channel id
title_chan	varchar	The channel title
description_chan	varchar	The description of the channel
creationAt_chan	datetime	The creation date
viewCount_chan	bigint	The views counter for the channel
subscriberCount_chan	bigint	The subscriptions counter for the channel
videoCount_chan	bigint	The counter of the channel videos
id_com	varchar	The id of the comment
content_com	text	The content of the comment
publishedAt_com	datetime	The publication date of the comment
likeCount_com	bigint	The counter of the likes
dislikeCount_com	bigint	The counter of the dislikes
id_thread	varchar	The id of the comment thread
content_thr	varchar	The content of the thread
publishedAt_thr	datetime	The date of the thread publication
likeCount_thr	bigint	The counter of the thread likes

dislikeCount_thr	bigint	The counter of the thread dislikes
id_vid	varchar	The video id
title_vid	varchar	The title of the video
description_vid	varchar	The description of the video
publishedAt	datetime	The publication date of the video
viewCount_vid	bigint	The counter of the video views
likeCount_vid	bigint	The counter of the likes of the video
dislikeCount_vid	bigint	The counter of the video dislikes
commentCount_vid	bigint	The counter of the comments on the video

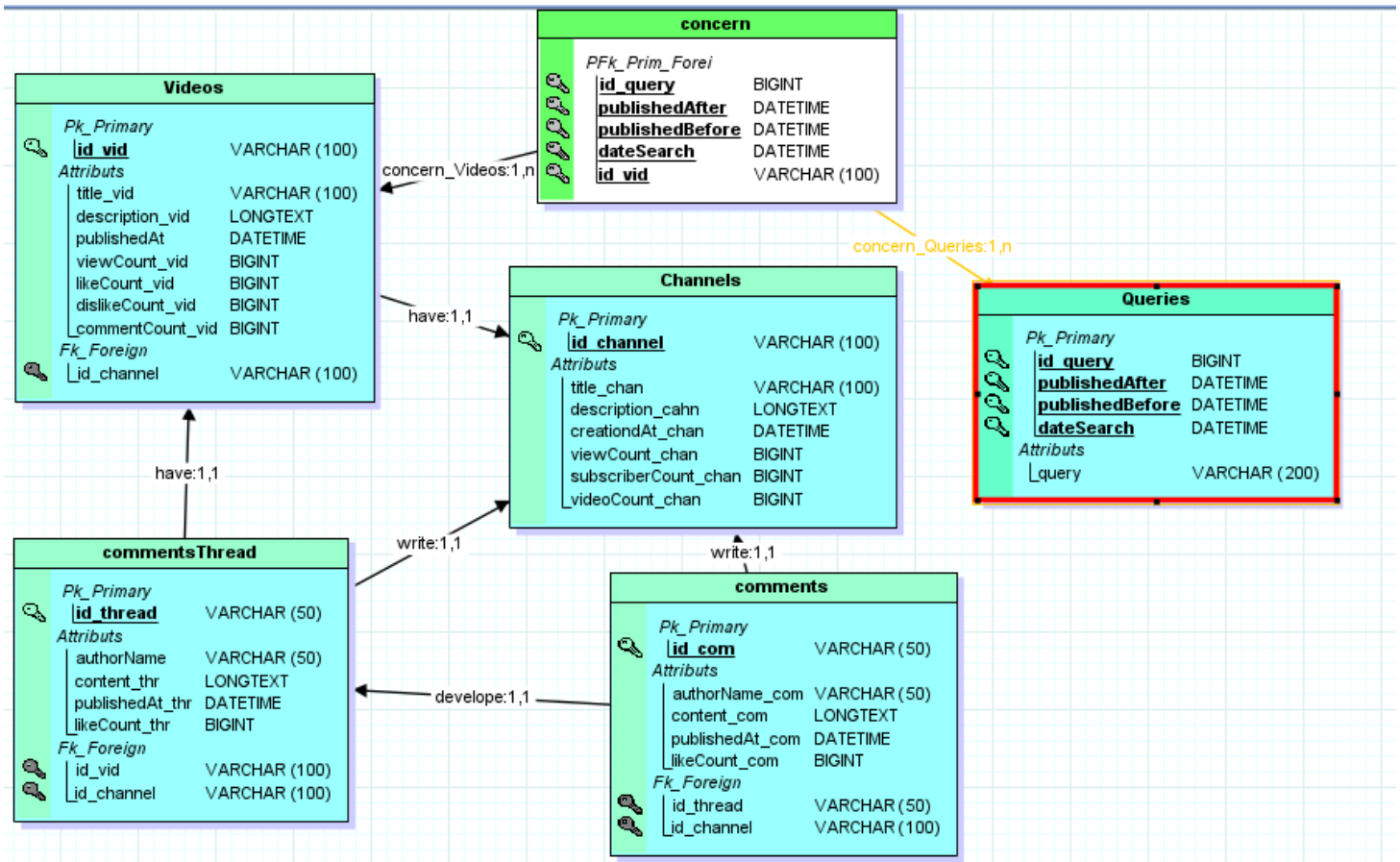
### 3.MCD :

Voici le model conceptuel de données qu'on a utilisé dans notre projet :



# 4.MLD

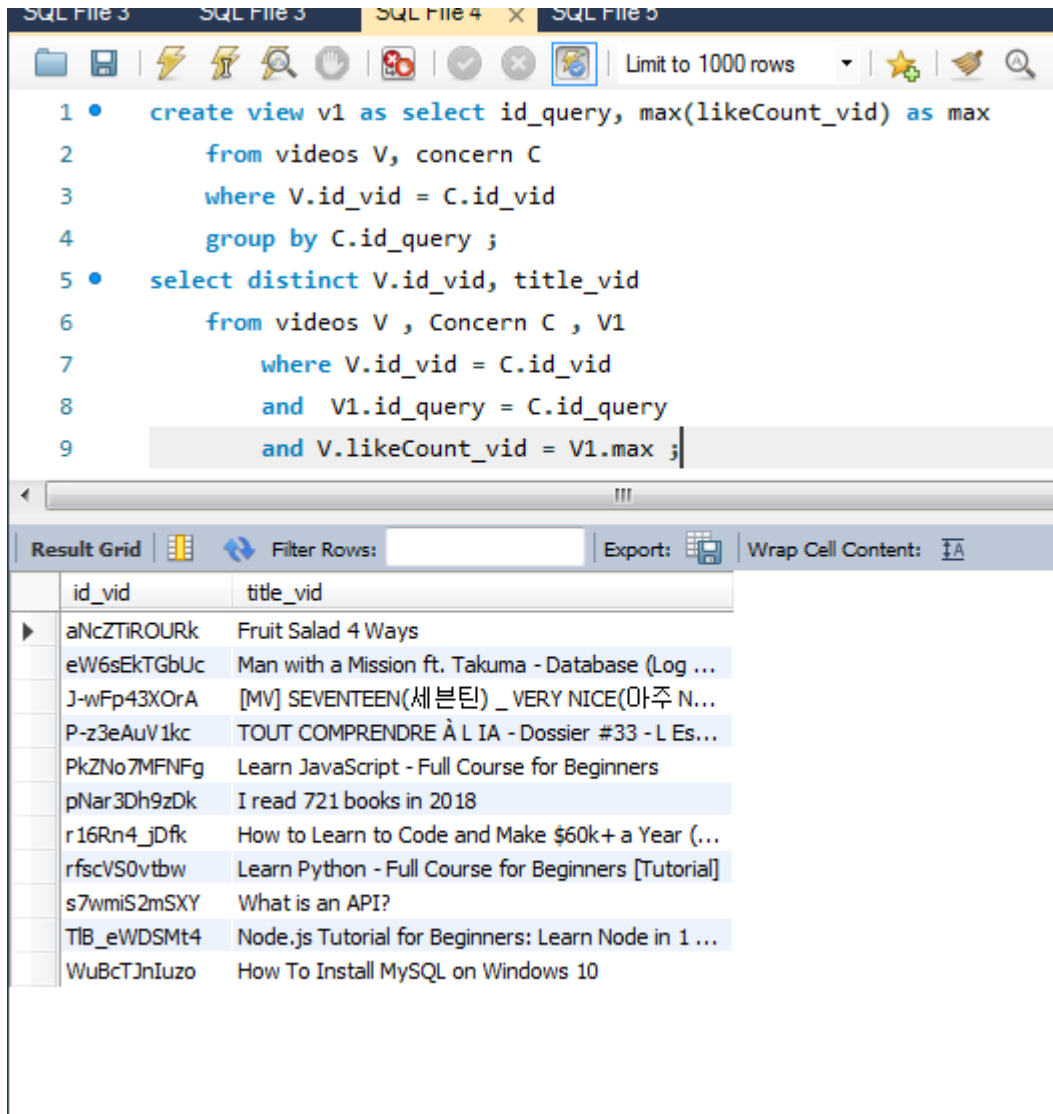
Le model logique de données :



## 5.Les requêtes :

1. Quels sont le ID et le Titre de la vidéo qui a obtenu le maximum de « Like », pour chacune des « Queries » présentes dans la base de données.
  - Create view v1 as select id\_query, max(likeCount\_vid) as max  
from videos V, concern C  
where V.id\_vid = C.id\_vid  
group by C.id\_query ;
  - Select distinct V.id\_vid, title\_vid  
from videos V , Concern C , V1

where V.id\_vid = C.id\_vid  
and V1.id\_query = C.id\_query  
and V.likeCount\_vid = V1.max ;



The screenshot shows a SQL IDE with a query editor and a result grid. The query editor contains the following SQL code:

```
1 • create view v1 as select id_query, max(likeCount_vid) as max
2   from videos V, concern C
3   where V.id_vid = C.id_vid
4   group by C.id_query ;
5 • select distinct V.id_vid, title_vid
6   from videos V , Concern C , V1
7   where V.id_vid = C.id_vid
8   and V1.id_query = C.id_query
9   and V.likeCount_vid = V1.max ;
```

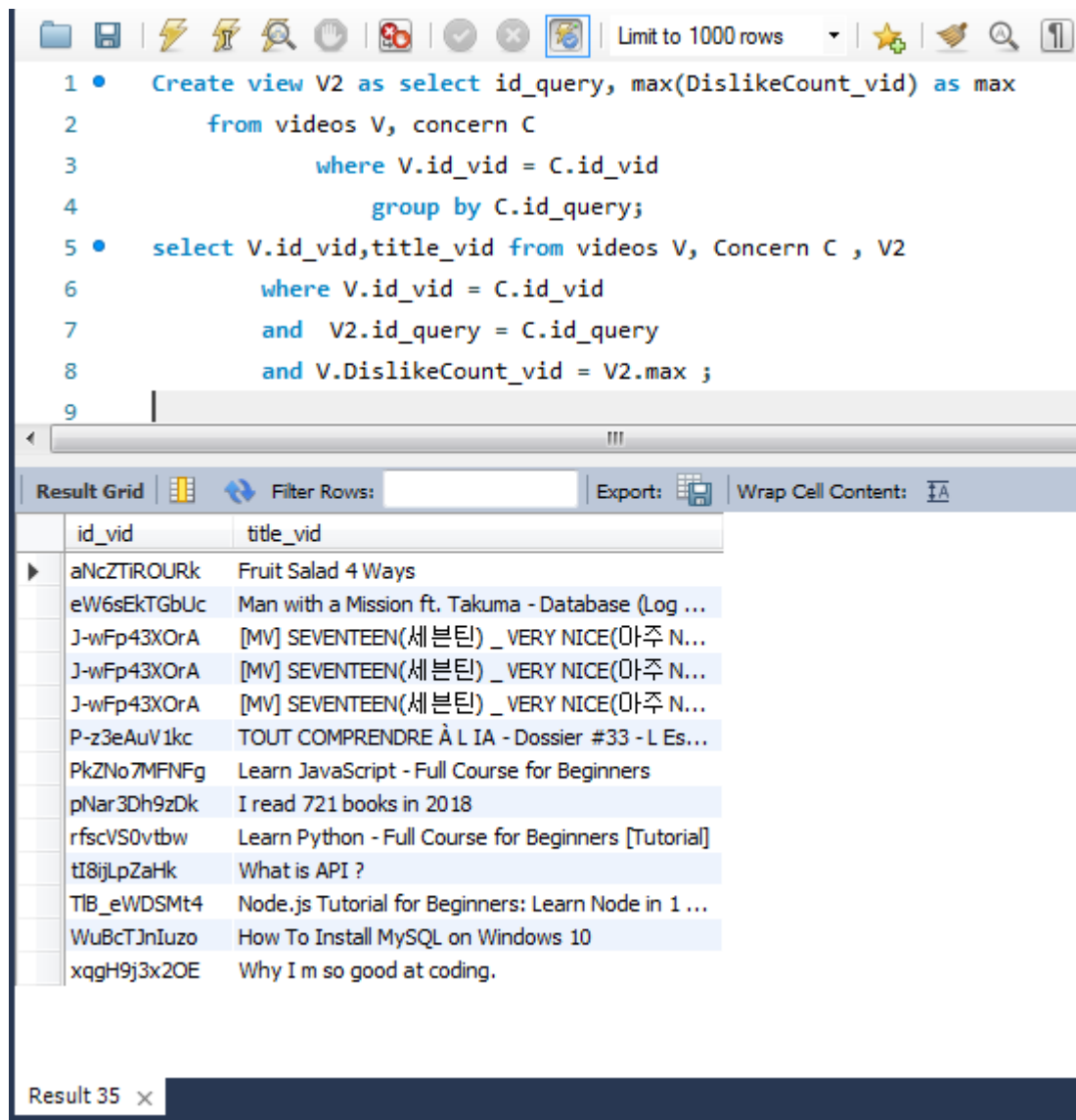
The result grid shows the following data:

id_vid	title_vid
aNcZTIROURk	Fruit Salad 4 Ways
eW6sEkTgbUc	Man with a Mission ft. Takuma - Database (Log ...
J-wFp43XOrA	[MV] SEVENTEEN(세븐틴) _ VERY NICE(아주 N...
P-z3eAuV1kc	TOUT COMPRENDRE À L'IA - Dossier #33 - L Es...
PkZNo7MFNFg	Learn JavaScript - Full Course for Beginners
pNar3Dh9zDk	I read 721 books in 2018
r16Rn4_jDfk	How to Learn to Code and Make \$60k+ a Year (...
rfscVS0vtbw	Learn Python - Full Course for Beginners [Tutorial]
s7wmiS2mSXY	What is an API?
TIB_eWDSMt4	Node.js Tutorial for Beginners: Learn Node in 1 ...
WuBcTJnIuzo	How To Install MySQL on Windows 10

2. Quels sont le ID et le Titre de la vidéo qui a obtenu le maximum de « DisLike » au maximum, pour chacune des Queries présente dans la base de données.

- Create view V2 as select id\_query, max(DislikeCount\_vid) as max  
from videos V, concern C  
where V.id\_vid = C.id\_vid  
group by C.id\_query;

- Select V.id\_vid , title\_vid from videos V, Concern C , V2  
where V.id\_vid = C.id\_vid  
and V2.id\_query = C.id\_query  
and V.DislikeCount\_vid = V2.max ;



The screenshot shows a database query editor with the following SQL code:

```

1 • Create view V2 as select id_query, max(DislikeCount_vid) as max
2   from videos V, concern C
3     where V.id_vid = C.id_vid
4     group by C.id_query;
5 • select V.id_vid,title_vid from videos V, Concern C , V2
6     where V.id_vid = C.id_vid
7     and V2.id_query = C.id_query
8     and V.DislikeCount_vid = V2.max ;
9

```

Below the code, the results are displayed in a table with columns 'id\_vid' and 'title\_vid'.

id_vid	title_vid
aNcZTIROURk	Fruit Salad 4 Ways
eW6sEkTgbUc	Man with a Mission ft. Takuma - Database (Log ...
J-wFp43XOrA	[MV] SEVENTEEN(세븐틴) _ VERY NICE(마주 N...
J-wFp43XOrA	[MV] SEVENTEEN(세븐틴) _ VERY NICE(마주 N...
J-wFp43XOrA	[MV] SEVENTEEN(세븐틴) _ VERY NICE(마주 N...
P-z3eAuV1kc	TOUT COMPRENDRE À L IA - Dossier #33 - L Es...
PkZNo7MFNFg	Learn JavaScript - Full Course for Beginners
pNar3Dh9zDk	I read 721 books in 2018
rfscVS0vtbw	Learn Python - Full Course for Beginners [Tutorial]
tI8jlPzAhk	What is API ?
TlB_eWDSMt4	Node.js Tutorial for Beginners: Learn Node in 1 ...
WuBcTJnIuzo	How To Install MySQL on Windows 10
xqgH9j3x2OE	Why I m so good at coding.

At the bottom, it says 'Result 35'.

3. Parmi les vidéos présentes dans la base de données, combien de vidéos ont été publiées par année et par « Query ».

- SELECT Q.id\_query ,  
Query ,



```

C.publishedAfter ,
C.publishedBefore ,
Count(*) as nbVideos
FROM concern C , videos V , queries Q
WHERE C.id_vid = V.id_vid
      and Q.id_query = C.id_query
GROUP BY id_query, publishedAfter, publishedBefore

```

SQL File 3\* x SQL File 3 Administration - Data Export

Limit to 1000 rows

```

1 • select Q.id_query,query,C.publishedAfter,C.publishedBefore,count(*)as nbVideos
2       from concern C , videos V , queries Q
3       where C.id_vid = V.id_vid and Q.id_query=C.id_query
4       group by id_query,publishedAfter,publishedBefore
5

```

Result Grid Filter Rows: Export: Wrap Cell Content:

	id_query	query	publishedAfter	publishedBefore	nbVideos
▶	0	javascript	2019-01-01 02:00:00	2019-12-16 02:00:00	2
	1	nice	2017-01-01 00:00:00	2018-00-02 02:00:00	15
	1	nice	2018-01-01 00:00:00	2018-12-02 02:00:00	15
	1	nice	2019-01-01 02:00:00	2019-12-16 02:00:00	15
	2	node js	2019-01-01 02:00:00	2019-12-16 02:00:00	3
	3	books	2019-01-01 02:00:00	2019-11-16 02:00:00	10
	4	IA	2019-01-01 02:00:00	2019-11-16 02:00:00	1
	5	python	2018-01-01 00:00:00	2018-12-02 02:00:00	1
	6	database	2018-01-01 00:00:00	2018-12-02 02:00:00	5
	7	cup fruit	2018-01-01 00:00:00	2018-12-02 02:00:00	5
	9	mysql ins...	2017-01-01 00:00:00	2018-00-02 02:00:00	5
	10	what is API	2017-01-01 00:00:00	2018-00-02 02:00:00	5
	11	coding	2017-01-01 00:00:00	2018-00-02 02:00:00	4

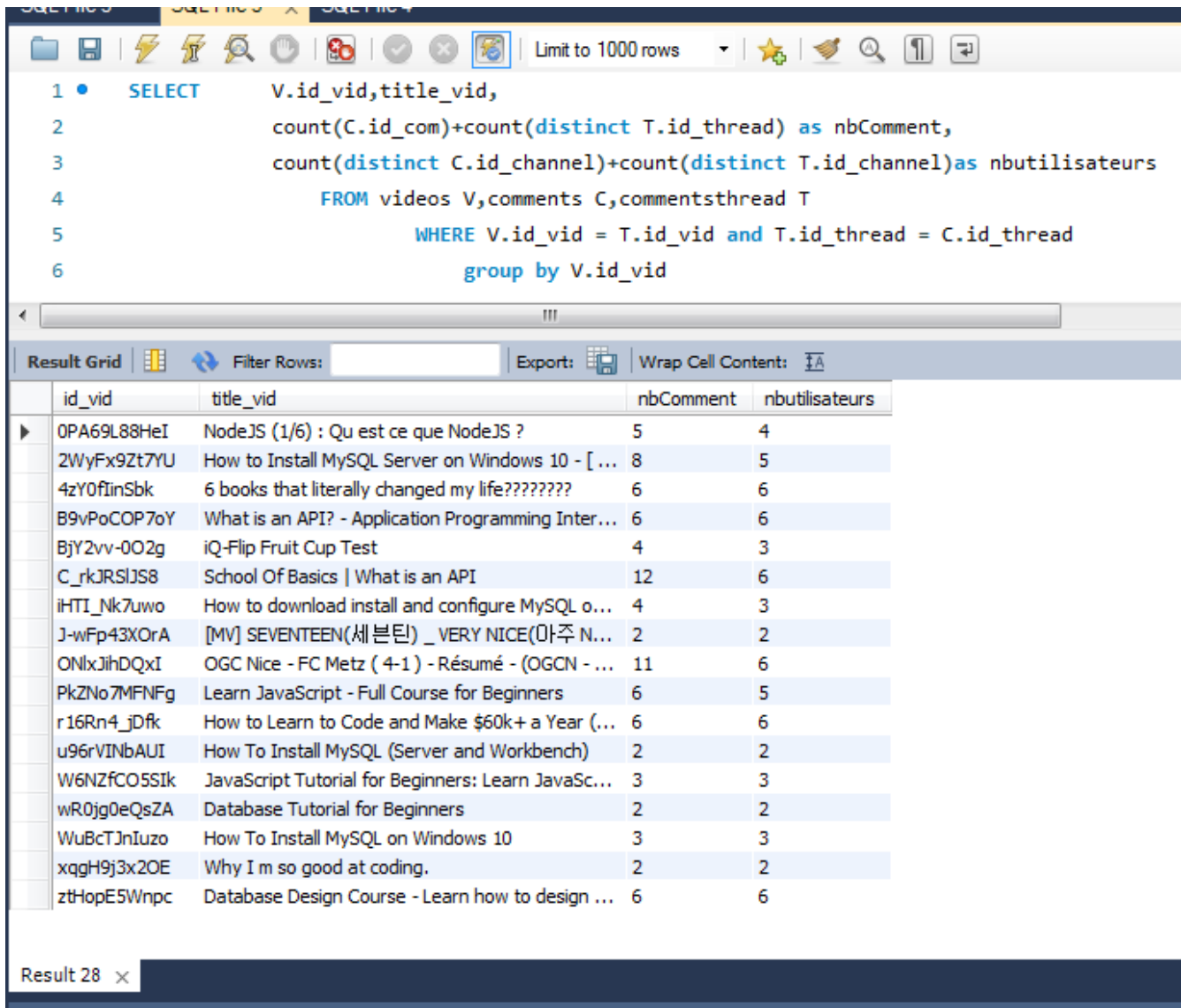
4. Pour chacune des vidéos présentes dans la base de données, quel est le nombre total des commentaires (y compris les réponses aux commentaires), et le nombre total des utilisateurs ayant rédigé ou répondu un commentaire.

- ```
SELECT V.id_vid,title_vid,
count(C.id_com)+count(distinct T.id_thread) as nbComment,
count(distinct C.id_channel)+count(distinct T.id_channel)as
nbutilisateurs
```

```

FROM videos V,comments C,commentstthread T
WHERE V.id_vid = T.id_vid and T.id_thread = C.id_thread
Group by V.id_vid

```



The screenshot shows a SQL query editor with a query and its results. The query is as follows:

```

1 • SELECT      V.id_vid,title_vid,
2                count(C.id_com)+count(distinct T.id_thread) as nbComment,
3                count(distinct C.id_channel)+count(distinct T.id_channel)as nbutilisateurs
4                FROM videos V,comments C,commentstthread T
5                WHERE V.id_vid = T.id_vid and T.id_thread = C.id_thread
6                group by V.id_vid

```

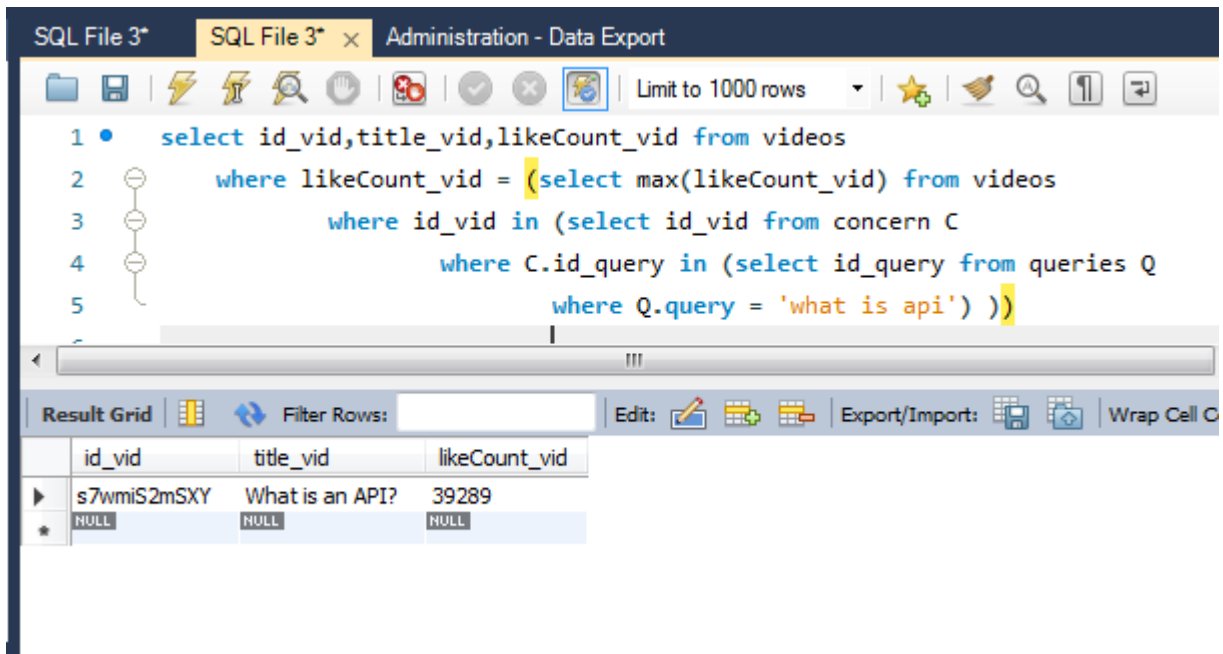
The results are displayed in a table with the following columns: id\_vid, title\_vid, nbComment, and nbutilisateurs. The table contains 20 rows of data.

| id_vid      | title_vid                                          | nbComment | nbutilisateurs |
|-------------|----------------------------------------------------|-----------|----------------|
| OPA69L88HeI | NodeJS (1/6) : Qu est ce que NodeJS ?              | 5         | 4              |
| 2WYfX9Zt7YU | How to Install MySQL Server on Windows 10 - [ ...  | 8         | 5              |
| 4zY0fInSbk  | 6 books that literally changed my life????????     | 6         | 6              |
| B9vPoCOP7oY | What is an API? - Application Programming Inter... | 6         | 6              |
| BjY2vv-0O2g | iQ-Flip Fruit Cup Test                             | 4         | 3              |
| C_rkJRSIJS8 | School Of Basics   What is an API                  | 12        | 6              |
| iHTI_Nk7uwo | How to download install and configure MySQL o...   | 4         | 3              |
| J-wFp43XOrA | [MV] SEVENTEEN(세븐틴) _ VERY NICE(아주 N...            | 2         | 2              |
| ONlxJihDQxI | OGC Nice - FC Metz ( 4-1 ) - Résumé - (OGCN - ...  | 11        | 6              |
| PkZNo7MFNFg | Learn JavaScript - Full Course for Beginners       | 6         | 5              |
| r16Rn4_jDfk | How to Learn to Code and Make \$60k+ a Year (...   | 6         | 6              |
| u96rVINbAUI | How To Install MySQL (Server and Workbench)        | 2         | 2              |
| W6NZfCO5SIk | JavaScript Tutorial for Beginners: Learn JavaSc... | 3         | 3              |
| wR0jg0eQsZA | Database Tutorial for Beginners                    | 2         | 2              |
| WuBcTJnIuzo | How To Install MySQL on Windows 10                 | 3         | 3              |
| xqgH9j3x2OE | Why I m so good at coding.                         | 2         | 2              |
| ztHopE5Wnpc | Database Design Course - Learn how to design ...   | 6         | 6              |

5. Pour une « Query » donnée, quels sont le ID et le Titre de la vidéo qui a été « Liké » au maximum.

- SELECT id\_vid,title\_vid,likeCount\_vid from videos  
where likeCount\_vid = (select max(likeCount\_vid)  
From videos  
where id\_vid in (select id\_vid from concern C  
where C.id\_query in (select id\_query from queries Q

where Q.query = 'what is api') ))



6. Quels sont le ID et le Titre de la vidéo qui a reçu le maximum de commentaires, pour chacune des « Queries » présentes dans la base de données.

- Create view vi As select Q.id\_query,query,max(CommentCount\_vid)As nbcomment

from videos V ,concern C ,queries Q  
where V.id\_vid = C.id\_vid  
and Q.id\_query = C.id\_query  
group by Q.id\_query;

- select distinct title\_vid,V.id\_vid from videos V,concern C ,vi  
where V.id\_vid = C.id\_vid  
and vi.id\_query = C.id\_query  
and V.CommentCount\_vid = vi.nbcomment

The screenshot shows a SQL IDE interface. The top toolbar includes icons for file operations, execution, and a 'Limit to 1000 rows' dropdown. The query editor contains the following SQL code:

```

1 • create view vi as select Q.id_query,query,max(CommentCount_vid)as nbcomment
2                               from videos V ,concern C ,queries Q
3                               where V.id_vid = C.id_vid
4                               and Q.id_query = C.id_query
5                               group by Q.id_query;
6 • select distinct title_vid,V.id_vid from videos V,concern C ,vi
7     where V.id_vid = C.id_vid
8     and vi.id_query = C.id_query
9     and V.CommentCount_vid = vi.nbcomment
10

```

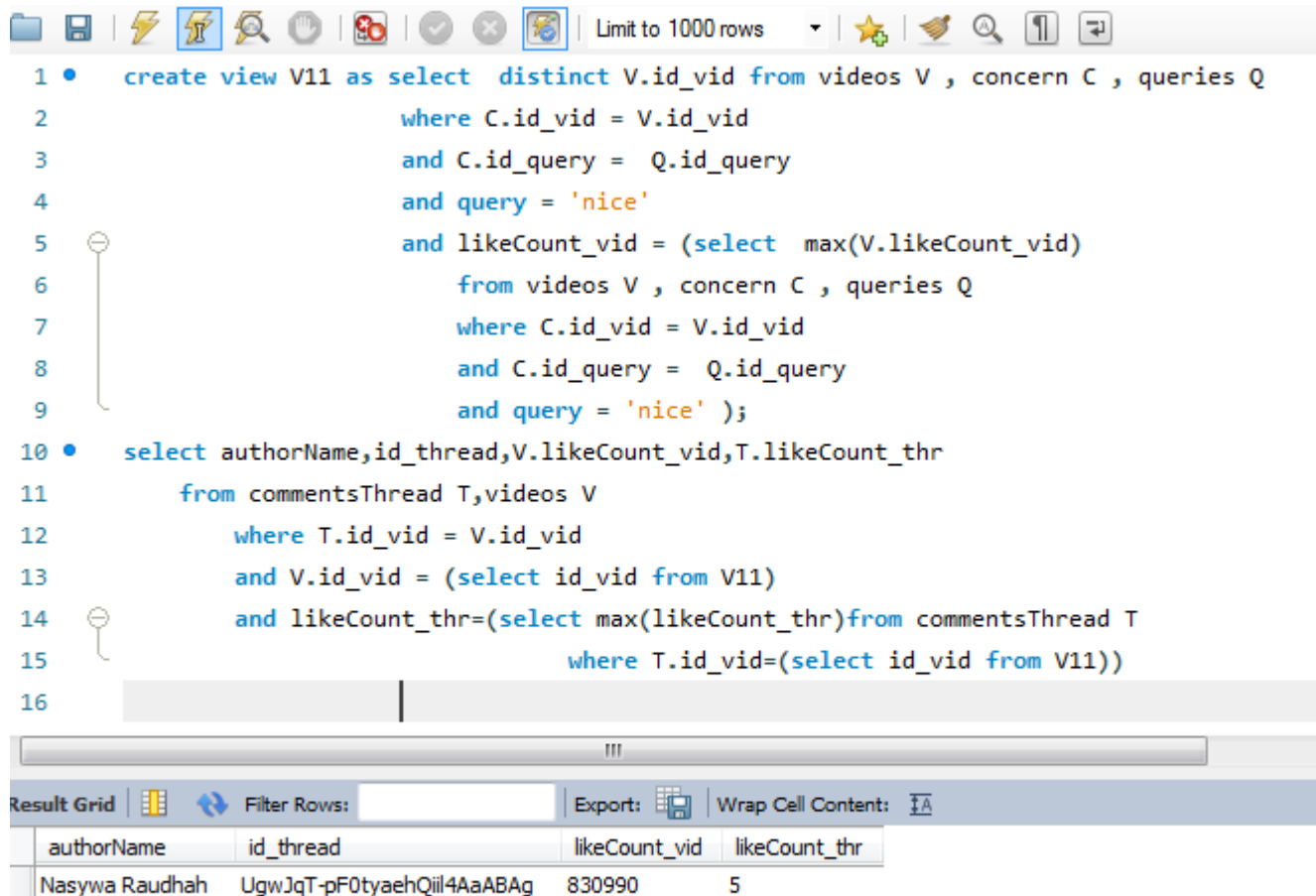
Below the editor is a 'Result Grid' with columns 'title\_vid' and 'id\_vid'. It displays 12 rows of data:

| title_vid                                           | id_vid      |
|-----------------------------------------------------|-------------|
| Fruit Salad 4 Ways                                  | aNcZTIROURk |
| Man with a Mission ft. Takuma - Database (Log ...   | eW6sEkTGbUc |
| [MV] SEVENTEEN(세븐틴) _ VERY NICE(마주 N...             | J-wFp43XOrA |
| TOUT COMPRENDRE À L IA - Dossier #33 - L Es...      | P-z3eAuV1kc |
| Learn JavaScript - Full Course for Beginners        | PkZNo7MFNFg |
| I read 721 books in 2018                            | pNar3Dh9zDk |
| How to Learn to Code and Make \$60k+ a Year (...    | r16Rn4_jDfk |
| Learn Python - Full Course for Beginners [Tutorial] | rfscVS0vtbw |
| What is API ?                                       | tI8ijLpZaHk |
| Node.js Tutorial for Beginners: Learn Node in 1 ... | TlB_eWDSMt4 |
| How To Install MySQL on Windows 10                  | WuBcTJnIuzo |

7. Pour une requête donnée, afficher l'utilisateur ayant rédigé le commentaire le plus populaire concernant la vidéo la plus « Likée »

- create view V11 as select distinct V.id\_vid  
from videos V , concern C , queries Q  
where C.id\_vid = V.id\_vid  
and C.id\_query = Q.id\_query  
and query = 'nice'  
and likeCount\_vid = (select max(V.likeCount\_vid)  
from videos V , concern C , queries Q  
where C.id\_vid = V.id\_vid  
and C.id\_query = Q.id\_query

- and query = 'nice' );  
 select authorName,id\_thread,V.likeCount\_vid,T.likeCount\_thr  
 from commentsThread T,videos V  
 where T.id\_vid = V.id\_vid and V.id\_vid = (select id\_vid from V11)  
 and likeCount\_thr=(select max(likeCount\_thr)  
 from commentsThread T  
 where T.id\_vid=(select id\_vid from V11));



The screenshot shows a SQL IDE interface. The top toolbar includes icons for file operations, execution, and navigation, along with a 'Limit to 1000 rows' dropdown. The query editor contains two SQL statements:

```

1 • create view V11 as select distinct V.id_vid from videos V , concern C , queries Q
2       where C.id_vid = V.id_vid
3       and C.id_query = Q.id_query
4       and query = 'nice'
5       and likeCount_vid = (select max(V.likeCount_vid)
6       from videos V , concern C , queries Q
7       where C.id_vid = V.id_vid
8       and C.id_query = Q.id_query
9       and query = 'nice' );
10 • select authorName,id_thread,V.likeCount_vid,T.likeCount_thr
11       from commentsThread T,videos V
12       where T.id_vid = V.id_vid
13       and V.id_vid = (select id_vid from V11)
14       and likeCount_thr=(select max(likeCount_thr)from commentsThread T
15       where T.id_vid=(select id_vid from V11))
16

```

Below the query editor is a 'Result Grid' showing the output of the second query. It has columns for 'authorName', 'id\_thread', 'likeCount\_vid', and 'likeCount\_thr'. The first row of data is:

| authorName     | id_thread                  | likeCount_vid | likeCount_thr |
|----------------|----------------------------|---------------|---------------|
| Nasywa Raudhah | UgwJqT-pF0tyaehQiil4AaABAg | 830990        | 5             |