



# Εργασία στις βάσεις και αποθήκες δεδομένων

Β' ΕΞΑΜΗΝΟ 2022-23





Καρσέλας Χρήστος



**ΤΜΗΜΑ ΠΛΗΡΟΦΟΡΙΚΗΣ**  
**DEPARTMENT OF INFORMATICS**

## ΘΕΜΑ 1<sup>ο</sup>

```
CREATE TABLE PICTURE (  
    Pic_ID TEXT PRIMARY KEY  
    NOT NULL,  
    Pic_Name TEXT NOT NULL,  
    Pic_Path TEXT NOT NULL  
);
```

	Name	Data type	Primary Key	Foreign Key	Unique	Check	Not NULL	Collate	Generated	
1	Pic_ID	TEXT								NULL
2	Pic_Name	TEXT								NULL
3	Pic_Path	TEXT								NULL

```
INSERT INTO PICTURE (Pic_ID, Pic_Name, Pic_Path)
```

```
VALUES
```

```
(1, 'android', 'C:\android.jpg'),
```

```
(2, 'boat', 'C:\boat.jpg'),
```

```
(3, 'camera', 'C:\camera.jpg'),
```

```
(4, 'phone', 'C:\phone.jpg'),
```






```
(5, 'note', 'C:\note.jpg') ;
```

	Pic_ID	Pic_Name	Pic_Path
1	1	android	C:\android.jpg
2	2	boat	C:\boat.jpg
3	3	camera	C:\camera.jpg
4	4	phone	C:\phone.jpg
5	5	note	C:\note.jpg

```

CREATE TABLE PICTURE_APP (
  Pic_ID TEXT REFERENCES PICTURE (Pic_ID)
  NOT NULL,
  App_ID TEXT PRIMARY KEY
  NOT NULL
  REFERENCES APP (ID)
);

```

	Name	Data type	Primary Key	Foreign Key	Unique	Check	Not NULL	Collate	Generated	Default value
1	Pic_ID	TEXT								NULL
2	App_ID	TEXT								NULL

```

INSERT INTO PICTURE_APP (Pic_ID, App_ID)
VALUES
(1, 'com.facebook.katana'),

```

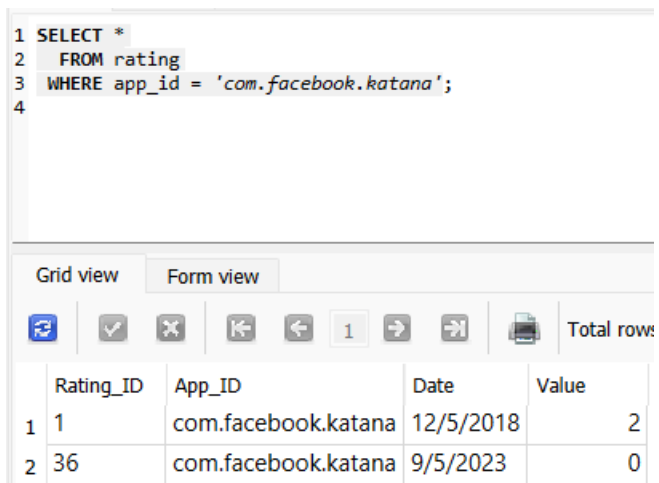
(1, 'com.viber.voip'),  
(4, 'com.whatsapp'),  
(3, 'com.instagram.android'),  
(4, 'com.facebook.talk'),  
(1, 'com.zhiliaapp.musically'),  
(3, 'com.viki.android'),  
(5, 'com.spotify.music');

	Pic_ID	App_ID
1	1	com.facebook.katana
2	1	com.viber.voip
3	4	com.whatsapp
4	3	com.instagram.android
5	4	com.facebook.talk
6	1	com.zhiliaapp.musically
7	3	com.viki.android
8	5	com.spotify.music

## ΘΕΜΑ 2<sup>ο</sup>

### ΕΡΩΤΗΣΗ 1<sup>Η</sup>

```
SELECT *  
  
FROM rating  
  
WHERE app_id = 'com.facebook.katana';
```



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

```
1 SELECT *  
2 FROM rating  
3 WHERE app_id = 'com.facebook.katana';  
4
```

Below the query editor, there is a toolbar with icons for undo, redo, save, and navigation. The results are displayed in a grid view with the following columns: Rating\_ID, App\_ID, Date, and Value.

	Rating_ID	App_ID	Date	Value
1	1	com.facebook.katana	12/5/2018	2
2	36	com.facebook.katana	9/5/2023	0

### ΕΡΩΤΗΣΗ 2<sup>Η</sup>






```
SELECT *  
  
FROM APP  
  
WHERE ID LIKE "%android%" OR  
  
Category_Name = "COMMUNICATION";
```

```




1 SELECT *
2   FROM APP
3  WHERE ID LIKE "%android%" OR
4         Category_Name = "COMMUNICATION";
5

```

Grid view Form view



1



Total rows loaded: 4

	ID	Name	Installations	Category_Name	Developer_ID
1	com.viber.voip	Viber Messenger - Messages, Group Chats & Calls	500000000	COMMUNICATION	6
2	com.whatsapp	WhatsApp Messenger	1000000000	COMMUNICATION	5
3	com.instagram.android	Instagram	1000000000	SOCIAL	8
4	com.viki.android	Viki: Asian Dramas & Movies	50000000	ENTERTAINMENT	2

### ΕΡΩΤΗΣΗ 3<sup>H</sup>

```

SELECT rating.Date,
       rating.Value,
       app.Name
FROM rating
      INNER JOIN
      app ON rating.App_ID = app.ID
ORDER BY rating.Value DESC;

```

```

1 SELECT rating.Date,
2        rating.Value,
3        app.Name
4   FROM rating
5        INNER JOIN
6        app ON rating.App_ID = app.ID
7  ORDER BY rating.Value DESC;
8

```

Grid view		Form view	
1		Total rows loaded: 50	
Date	Value	Name	
1 11/15/2018	5	WhatsApp Messenger	
2 10/20/2020	5	WhatsApp Messenger	

3	11/19/2018	5	WhatsApp Messenger
4	11/25/2021	5	Viki: Asian Dramas & Movies
5	10/7/2018	5	Spotify: Music and Podcasts
6	12/5/2021	5	TikTok
7	11/8/2020	5	Viki: Asian Dramas & Movies
8	12/5/2018	5	Spotify: Music and Podcasts
9	11/11/2019	5	WhatsApp Messenger
10	11/17/2022	5	WhatsApp Messenger
11	10/20/2016	5	Instagram
12	11/15/2019	5	TikTok
13	10/31/2019	5	Instagram
14	12/11/2018	4	Viber Messenger - Messages, Group Chats & Calls
15	9/24/2018	4	Instagram
16	11/1/2021	4	Messenger Kids â€” The Messaging
17	11/26/2019	4	Messenger Kids â€” The Messaging
18	9/24/2017	4	Viki: Asian Dramas & Movies
19	11/19/2022	4	Spotify: Music and Podcasts
20	11/15/2021	4	Viber Messenger - Messages, Group Chats & Calls
21	12/13/2022	4	Messenger Kids â€” The Messaging
22	11/24/2021	4	TikTok
23	12/11/2018	4	WhatsApp Messenger
24	11/25/2019	4	Messenger Kids â€” The Messaging

45	12/15/2018	2	Instagram
46	10/20/2020	2	TikTok
47	11/17/2023	2	Viki: Asian Dramas & Movies
48	11/13/2018	1	Spotify: Music and Podcasts
49	9/5/2023	0	Facebook
50	9/24/2022	0	TikTok

24	11/25/2019	4	Messenger Kids â€” The Messaging
25	11/30/2021	4	TikTok
26	12/9/2018	3	Messenger Kids â€” The Messaging
27	12/15/2017	3	Messenger Kids â€” The Messaging
28	12/1/2019	3	Instagram
29	9/26/2019	3	Viki: Asian Dramas & Movies
30	11/5/2018	3	Viki: Asian Dramas & Movies
31	12/28/2019	3	Viber Messenger - Messages, Group Chats & Calls
32	11/17/2018	3	WhatsApp Messenger
33	12/15/2019	3	Viki: Asian Dramas & Movies
34	11/8/2018	3	WhatsApp Messenger
35	11/4/2018	3	Viki: Asian Dramas & Movies
36	11/19/2018	3	Instagram
37	12/5/2018	2	Facebook
38	10/1/2020	2	Instagram
39	12/13/2018	2	WhatsApp Messenger
40	12/2/2019	2	Viki: Asian Dramas & Movies
41	12/5/2019	2	Viki: Asian Dramas & Movies
42	01/01/2023	2	Messenger Kids â€” The Messaging
43	12/2/2018	2	Instagram
44	9/9/2018	2	Instagram

#### ΕΡΩΤΗΣΗ 4<sup>H</sup>

```
SELECT rating.Date,  
  
       rating.Value,  
  
       app.Name  
  
FROM rating  
  
     INNER JOIN  
  
     app ON rating.App_ID = app.ID  
  
WHERE app.Category_Name = 'SOCIAL'  
  
ORDER BY rating.Value ASC;
```

```
1 SELECT rating.Date,  
2       rating.Value,  
3       app.Name  
4 FROM rating  
5     INNER JOIN  
6     app ON rating.App_ID = app.ID  
7 WHERE app.Category_Name = 'SOCIAL'  
8 ORDER BY rating.Value ASC;  
9
```

	Date	Value	Name
1	9/5/2023	0	Facebook
2	9/24/2022	0	TikTok
3	12/5/2018	2	Facebook
4	10/1/2020	2	Instagram
5	01/01/2023	2	Messenger Kids "The Messaging"
6	12/2/2018	2	Instagram
7	9/9/2018	2	Instagram
8	12/15/2018	2	Instagram
9	10/20/2020	2	TikTok
10	12/9/2018	3	Messenger Kids "The Messaging"



11	12/15/2017	3	Messenger Kids â€” The Messaging
12	12/1/2019	3	Instagram
13	11/19/2018	3	Instagram
14	9/24/2018	4	Instagram
15	11/1/2021	4	Messenger Kids â€” The Messaging
16	11/26/2019	4	Messenger Kids â€” The Messaging
17	12/13/2022	4	Messenger Kids â€” The Messaging
18	11/24/2021	4	TikTok
19	11/25/2019	4	Messenger Kids â€” The Messaging
20	11/30/2021	4	TikTok
21	12/5/2021	5	TikTok
22	10/20/2016	5	Instagram
23	11/15/2019	5	TikTok
24	10/31/2019	5	Instagram

## ΕΡΩΤΗΣΗ 5<sup>H</sup>

SELECT name,

email

FROM developer

WHERE email LIKE '%android%';

```

1 SELECT name,
2     email
3 FROM developer
4 WHERE email LIKE '%android%';
5

```

Grid view		Form view	
			<

## ΕΡΩΤΗΣΗ 6<sup>H</sup>

```
SELECT count()

FROM app

    INNER JOIN

        developer ON developer.Dev_ID = app.Developer_ID

WHERE developer.Name = 'Meta Platforms, Inc.';
```

The screenshot shows a SQL query editor with the following text:

```
1 SELECT count()
2 FROM app
3     INNER JOIN
4         developer ON developer.Dev_ID = app.Developer_ID
5 WHERE developer.Name = 'Meta Platforms, Inc.';
6
7
```

Below the editor is a toolbar with icons for undo, redo, save, and other functions. To the right of the toolbar, it says "Total rows loaded: 1".

Below the toolbar is a table with the following data:

	count()
1	2

## ΕΡΩΤΗΣΗ 7<sup>H</sup>

```
SELECT picture.Pic_ID,

    count(picture_app.App_ID)

FROM picture

    LEFT JOIN









        picture_app ON picture.Pic_ID = picture_app.Pic_ID

GROUP BY picture.Pic_ID;
```

```

1 SELECT picture.Pic_ID,
2        count(picture_app.App_ID)
3 FROM picture
4        LEFT JOIN
5        picture_app ON picture.Pic_ID = picture_app.Pic_ID
6 GROUP BY picture.Pic_ID;
7

```

Grid view		Form view
     <span>1</span>   		Total rows loaded
	Pic_ID	count(picture_app.App_ID)
1	1	3
2	2	0
3	3	2
4	4	2
5	5	1

## ΕΡΩΤΗΣΗ 8<sup>H</sup>

```

SELECT pic_name,
        count(picture_app.App_ID)
FROM picture
        LEFT JOIN
        picture_app ON picture.Pic_ID = picture_app.Pic_ID
GROUP BY picture.Pic_Name;

```

```

1 SELECT pic_name,
2        count.picture_app.App_ID)
3 FROM picture
4 LEFT JOIN
5 picture_app ON picture.Pic_ID = picture_app.Pic_ID
6 GROUP BY picture.Pic_Name;
7

```

Grid view		Form view	
		Total rows loaded	
pic_name	count.picture_app.App_ID)		
1 android	3		
2 boat	0		
3 camera	2		
4 note	1		
5 phone	2		

## ΕΡΩΤΗΣΗ 9<sup>H</sup>

```

SELECT round(avg(value), 2)
FROM rating
WHERE app_id = 'com.viki.android';

```

```

1 SELECT round(avg(value), 2)
2 FROM rating
3 WHERE app_id = 'com.viki.android';
4









```

Grid view		Form view	
		Total rows loaded	
round(avg(value), 2)			
1	3.2		

## ΕΡΩΤΗΣΗ 10<sup>H</sup>

```
SELECT DISTINCT app.ID  
  
FROM APP  
  
    INNER JOIN  
  
        OPERATING ON app.ID = operating.App_ID  
  
WHERE OPERATING.Operating_System = 'Android' AND  
  
    operating.ID IN (  
  
        SELECT App_ID  
  
        FROM OPERATING  
  
        WHERE Operating_System = 'Windows'  
  
    )  
  
ORDER BY APP.ID ASC;
```

```
1 SELECT DISTINCT app.ID  
2   FROM APP  
3     INNER JOIN  
4   OPERATING ON app.ID = operating.App_ID  
5 WHERE OPERATING.Operating_System = 'Android' AND  
6   operating.ID IN (  
7     SELECT App_ID  
8     FROM OPERATING  
9     WHERE Operating_System = 'Windows'  
10  )  
11 ORDER BY APP.ID ASC;  
12  
13
```

	Grid view	Form view
		    1    Total
ID		
1	com.facebook.katana	
2	com.spotify.music	
3	com.viki.android	
4	com.whatsapp	
5	com.zhiliaobaoapp.musically	

## ΕΡΩΤΗΣΗ 11<sup>H</sup>

SELECT pic\_name

FROM picture

EXCEPT

SELECT DISTINCT picture.Pic\_Name

FROM picture

INNER JOIN

picture\_app ON picture.Pic\_ID = picture\_app.Pic\_ID;

```
1 SELECT pic_name
2 FROM picture
3 EXCEPT
4 SELECT DISTINCT picture.Pic_Name
5 FROM picture
6 INNER JOIN
7 picture_app ON picture.Pic_ID = picture_app.Pic_ID;
8
```

Grid view

Form view











1







Total rows loaded

	pic_name
1	boat

## ΕΡΩΤΗΣΗ 12<sup>H</sup>

CREATE VIEW MinRating AS

SELECT App\_ID,

MIN(Value) AS MINV

FROM Rating

GROUP BY App\_id;

SELECT App\_ID, MINV

FROM MinRating;

	App_ID	MINV
1	com.facebook.katana	0
2	com.facebook.talk	2
3	com.google.android.talk	1
4	com.instagram.android	2
5	com.spotify.music	1
6	com.viber.voip	3
7	com.viki.android	2
8	com.whatsapp	2
9	com.zhiliaoapp.musically	0