

Practical Work n° 4

Objective: The objective of this practical work is to understand and implement the concept of views in databases. By creating, modifying, and querying views, students will learn how to simplify complex queries, enhance data security, and improve database management. This exercise will focus on designing views that abstract and organize data in a meaningful way, making it easier for users to access specific information without altering the underlying database structure.

Practical Work description

Create the following schema:

- **ARTICLE**(idArticle,art_name)
- **UNIVERSITY**(idUniv,univ_name)
- **RESEARCHER**(idres, res_name, #idArticle, # idUniv)

Insert the following data:

Article

| idArticle | art_name |
|-----------|----------|
| 1 | Article1 |
| 2 | Article2 |
| 3 | Article3 |
| 4 | Article4 |
| 5 | Article5 |

University

| idUniv | univ_name |
|--------|-----------|
| 1 | Batna |
| 2 | Annaba |
| 3 | Biskra |

Researcher

| idres | res_name | idArticle | idUniv |
|-------|-----------|-----------|--------|
| 1 | Belgacem | 1 | 3 |
| 2 | Boutheina | 2 | 2 |
| 3 | Samir | 3 | 3 |
| 4 | Kais | 4 | 1 |

Tasks:

1. Create a view named **Biskra** that displays the researchers from university 3.
2. Return the contents of the view.

3. Modify the name of the researcher “Belgacem” to “Ali” in the **RESEARCHER** table. Verify that the **Biskra** view has changed.
4. Insert a new researcher from the university of Biskra into the **RESEARCHER** table and verify that the contents of **Biskra** have indeed changed.
5. Display the names of all researchers from Biskra using the **Biskra** view.
6. Change the name of the researcher “Ali” back to “Belgacem” in the view.
7. List the contents of the **RESEARCHER** table. What do you notice?
8. Create a view named **Universities** that displays the names of the researchers along with the names of their universities and the identifiers of their articles.
9. Display the contents of the view.
10. Display the names of the researchers who contributed to article 1 using the view.
11. Display the names of the researchers working in Batna.
12. Display the names of the articles from researchers in Batna using the **Universities** view and the **ARTICLE** table.
13. Create a view based on **Universities** that displays the names of the researchers, the names of their universities, as well as the names of their articles.
14. Display the contents of the view.
15. Create a view **ResearcherArticles** that shows the number of articles per researcher and another view **UniversityArticles** that shows the number of articles per university.
16. Display the number of articles from the university of Batna using the view.