1. Cu instructiuni CREATE TABLE se cere crearea a cel putin doua tabele si

definirea de restrictii de integritate pentru aceste tabele:

- restrictii de cheie: unica, primara

- restrictii pentru valorile coloanelor

- restrictii pentru valorile inregistrarilor

- restrictii de cheie externa

La tabele si coloane sa se asocieze comentarii (descrieri).

La alegerea problemei se va avea in vedere faptul ca aceste tabele vor trebui

modificate prin adaugarea unor coloane cu valori de un tip definit de utilizator.

Pentru tabelele definite se cere crearea de indexuri. (1p)

2. Creati un tabel cu structura si datele tabelului "studenti" din schema MASTER. Evidentiati pasii prin care ati rezolvat cerinta (0.5p)

3. Sa se foloseasca instructiuni pentru: adaugarea, modificarea,

stergerea de date in tabelele definite. Se va observa modul in care se folosesc

restrictiile definite, prin cereri de executare a unor instructiuni care nu le respecta. (1p)

4. Se vor folosi view-uri sistem pentru a obtine informatii cu privire la: tabelele definite,

tabelele la care se are acces, restrictiile definite, indexurile construite,

coloanele dintr-un anumit tabel (denumire, tip). (0.5p)

5. Folosind tabelul "studenti" creat mai sus, se cere o procedura care determina cel mult p% studenti din fiecare sectie ce se afla in mijlocul intervalului de note (50-p/2% <-> 50+p/2%)

(nume, prenume, sectia, media), in ordinea descrescatoare dupa medie si alfabetic, studenti care au media mai mare decat 5 (p este parametru pentru procedura). (2.5p)

Exemplu:

- daca pentru sectia 1 avem 10 studenti cu media peste 5 si p este 20%, atunci vor fi afisati 2 studenti, de pe pozitiile 5 si 6;

- daca pentru sectia 1 avem 9 studenti cu media peste 5 si p este 20%, atunci va afisa 1 student, de pe pozitia 5;

6. Se cere un view care determina lista procedurilor (nume schema, nume procedura) pe care le poate folosi utilizatorul curent. (0.5p)

7. Se cere o procedura care are ca parametri un nume de schema si un nume de procedura si determina textul sursa cu care s-a definit procedura, in aceeasi ordine a liniilor. (1p)

8. Se cere utilizarea intr-un mediu de programare(PHP, Java, C#) a componentelor cerute mai sus (executie procedura, afisare date furnizate de view, executie procedura). (2p)

Toate instructiunile folosite trebuie sa apara in fisiere de comenzi (scripturi) pentru a putea fi reexecutate si testate.

pentru tabela studenti gasiti scriptul aici http://www.cs.ubbcluj.ro/~horea/SD/fisiere/studenti.sql

Termen: 4 aprilie 2023

ENGLISH

1. Using CREATE TABLE statements create at least two tables and define integrity constraints for these tables:

- key restrictions: unique, primary

- restrictions for column values

- restrictions for the values of the records

- foreign key restrictions

Add comments (descriptions) to the tables and columns.

When choosing the problem, take into account the fact that these tables will need to be modified by adding some columns with values of a type defined by the user.

The creation of indexes is required for the defined tables. (1p)

2. Create a table with the structure and data of the "students" table from the MASTER schema. Mention all the steps by which you solved the request (0.5p)

3. Use statement for: adding, modifying, deleting data in the defined tables. It will be observed how they are used with the defined restrictions, through requests to execute instructions that do not respect them. (1p)

4. System views will be used to obtain information regarding: defined tables, the tables the user has access to, the restrictions defined, the indexes built, the columns in a certain table (name, type). (0.5p)

5. Using the "students" table created above, a procedure is required that determines at most p% students from each section that are in the middle of the grade range (50-p/2% <-> 50+p/2%)

(surname, surname, section, average), sorted in descending order by average and alphabetically, students who have an average grade higher than 5 (p is a parameter for the procedure). (2.5p)

Example:

- if for section 1 we have 10 students with an average above 5 and p is 20%, then 2 students will be displayed, from positions 5 and 6;

- if for section 1 we have 9 students with an average above 5 and p is 20%, then it will display 1 student, from position 5;

6. A view is required that determines the list of procedures (schema name, procedure name) that the current user can use. (0.5p)

7. A procedure is requested that has as parameters a schema name and a procedure name and determines the source text with which the procedure was defined, in the same order of the lines. (1p)

8. It is required to use in a programming environment (PHP, Java, C#) the components required above (execution of the procedure, display of data provided by the view, execution of the procedure). (2p)

All the instructions used must appear in command files (scripts) to be able to be re-executed and tested.

for the students table, find the script here http://www.cs.ubbcluj.ro/~horea/SD/fisiere/studenti.sql

Deadline: April 4, 2023