1. Folosind tabelul "studenti" creat in primul laborator, se cer view-uri pentru urmatoarele probleme (se rezolva usor cu functiile analitice):

a. Pentru fiecare student se cere: nume, prenume, grupa, media, media sectiei din care face parte, distanta fata de medie (varianta), pozitia studentului in anul din care face parte (in ordonarea studentilor descrescator dupa medie).

b. Studentii care au primele 3 medii cele mai mari din fiecare grupa.

2. Se poate folosi tabela cursz din schema master.

Daca folositi instante proprii, se considera in schema curenta tabela:

```
CREATE TABLE cursz (
 zi number(2),
 luna number(2),
 an number(4),
 valoare number(6,4),
 moneda char(3)
);
```

(tabelul contine ratele de schimb zilnice, pentru o perioada de timp, pentru mai multe monede,

un script de insert va fi disponibil pentru utilizare)

(Functia MATCH_RECOGNIZE este disponibila din Oracle 12c, dar nu versiunea Express Edition)

Pentru studentii care nu au o versiune ce suporta MATCH_RECOGNIZE, se cere sa se arate interogarea cu comentariile corespunzatoare pentru a se putea intelege metoda de rezolvare.

a. Se cer intervalele de timp in care rata de schimb (pentru o anumita moneda) a scazut cel putin 10 zile consecutive

(se cere numarul de zile de scadere si diferenta de valoare de la inceputul si sfarsitul perioadei).

b. Se cere inca o problema care determina un anumit model (ex: sablon V, W, M, etc) folosind datele din acest tabel.

3. Sa se creeze un pachet utilizator care sa contina cel putin 3 functii/proceduri care sa poata:

a. sa afiseze date din view-urile de la punctul 1, datele fiind filtrate dupa cel putin 2 parametri de intrare

b. sa contina o functie de jurnalizare/log (inserarea de inregistrari intr-o tabela numita jurnal/log, la fiecare apel de porcedura/functie de la punctul a ,la inceputul si/sau sfarsitul ei, pentru a calcula durata, fie la terminare cu succes, fie cu eroare; tabela trebuie sa contine detalii despre functia rulata, durata, daca rularea a fost cu succes sau eroare, si eroarea).

Termen: 9 mai 2023

-- ENGLISH

1. Using the "students" table created in the first lab, create views for the following problems (easily solved with analytical functions):

a. For each student display: name, surname, group, average, average of the section the student belongs to, distance from the average (variance), the student's position in the year he/she belongs to (in descending order of students according to their average).

b. For each group, students who have the first 3 highest averages.

2. Use the table "cursz" from the "master" schema.

If you use your own installed Oracle instance, the following table is considered in the current schema:

```
CREATE TABLE cursz (
 zi number(2),
 luna number(2),
 an number(4),
 valoare number(6,4),
 moneda char(3)
);
```

(the table contains the daily exchange rates, for a period of time, for several currencies,

an insert script will be available for use)

(The MATCH_RECOGNIZE function is available from Oracle 12c, but not in the Express Edition version)

For students who do not have a version that supports MATCH_RECOGNIZE, it is requested to create the queries with the corresponding comments in order to be able to understand the solution method.

a. The time intervals in which the exchange rate (for a certain currency) decreased for at least 10 consecutive days

(display the number of days of decrease and the difference in value from the beginning and end of the period).

b. Another problem is asked that determines a certain model (eg: template V, W, M, etc.) using the data from this table.

3. Create a user package that contains at least 3 functions/procedures that can:

a. display data from the views from point 1, the data being filtered according to at least 2 input parameters

b. contain a journaling/log function (insertion of records in a table called journal/log, at each call of the procedure/function from point a, at its beginning and/or end, to calculate the duration, either at ending successfully or with an error; the table must contain details about the function run, the duration, whether the run was successful or an error has occured, and the error).

Deadline May 9, 2023