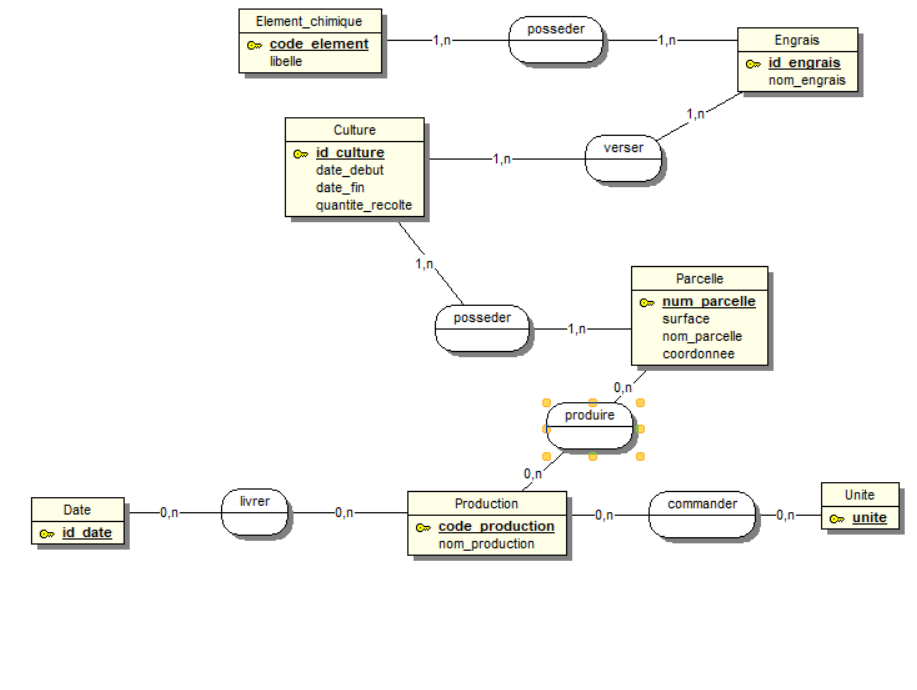
Merise et base de donnee

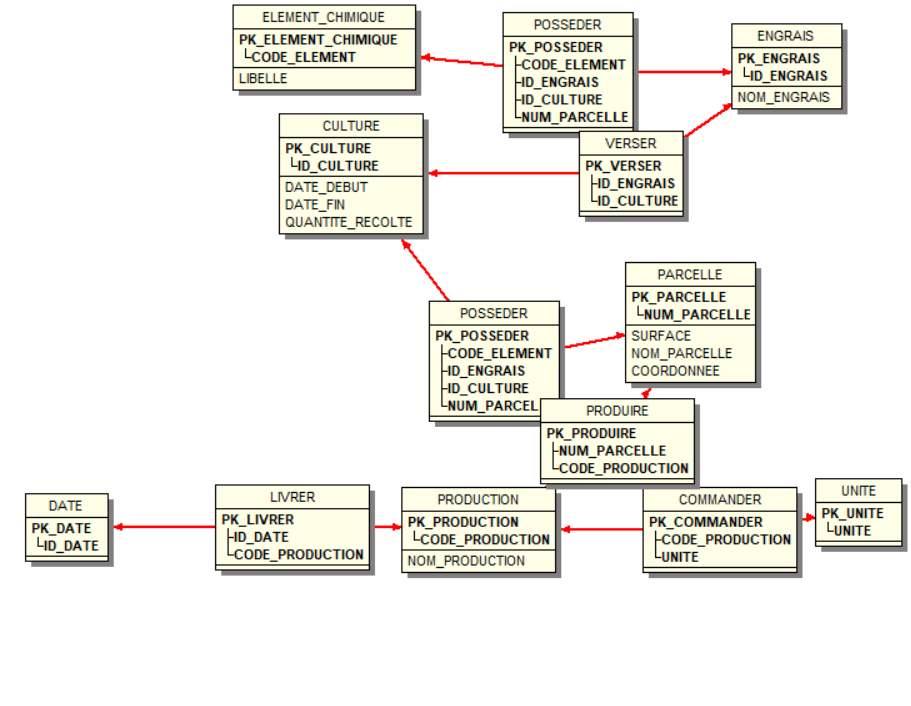
Lalaniaina CFP

**EXERCICE 1**

**MCD:**



**MLD**:



**SQL**

DROP DATABASE IF EXISTS MLR2;

CREATE DATABASE IF NOT EXISTS MLR2;

USE MLR2;

# -----------------------------------------------------------------------------

# TABLE : CULTURE

# -----------------------------------------------------------------------------

CREATE TABLE IF NOT EXISTS CULTURE

(

ID\_CULTURE CHAR(32) NOT NULL ,

DATE\_DEBUT DATE NULL ,

DATE\_FIN DATE NULL ,

QUANTITE\_RECOLTE INTEGER(2) NULL

, PRIMARY KEY (ID\_CULTURE)

)

comment = "";

# -----------------------------------------------------------------------------

# TABLE : DATE

# -----------------------------------------------------------------------------

CREATE TABLE IF NOT EXISTS DATE

(

ID\_DATE DATE NOT NULL

, PRIMARY KEY (ID\_DATE)

)

comment = "";

# -----------------------------------------------------------------------------

# TABLE : UNITE

# -----------------------------------------------------------------------------

CREATE TABLE IF NOT EXISTS UNITE

(

UNITE CHAR(32) NOT NULL

, PRIMARY KEY (UNITE)

)

comment = "";

# -----------------------------------------------------------------------------

# TABLE : PARCELLE

# -----------------------------------------------------------------------------

CREATE TABLE IF NOT EXISTS PARCELLE

(

NUM\_PARCELLE INTEGER(2) NOT NULL ,

SURFACE INTEGER(2) NULL ,

NOM\_PARCELLE CHAR(255) NULL ,

COORDONNEE CHAR(255) NULL

, PRIMARY KEY (NUM\_PARCELLE)

)

comment = "";

# -----------------------------------------------------------------------------

# TABLE : PRODUCTION

# -----------------------------------------------------------------------------

CREATE TABLE IF NOT EXISTS PRODUCTION

(

CODE\_PRODUCTION SMALLINT(1) NOT NULL ,

NOM\_PRODUCTION CHAR(255) NULL

, PRIMARY KEY (CODE\_PRODUCTION)

)

comment = "";

# -----------------------------------------------------------------------------

# TABLE : ELEMENT\_CHIMIQUE

# -----------------------------------------------------------------------------

CREATE TABLE IF NOT EXISTS ELEMENT\_CHIMIQUE

(

CODE\_ELEMENT CHAR(32) NOT NULL ,

LIBELLE CHAR(255) NULL

, PRIMARY KEY (CODE\_ELEMENT)

)

comment = "";

# -----------------------------------------------------------------------------

# TABLE : ENGRAIS

# -----------------------------------------------------------------------------

CREATE TABLE IF NOT EXISTS ENGRAIS

(

ID\_ENGRAIS INTEGER(2) NOT NULL ,

NOM\_ENGRAIS CHAR(255) NULL

, PRIMARY KEY (ID\_ENGRAIS)

)

comment = "";

# -----------------------------------------------------------------------------

# TABLE : COMMANDER

# -----------------------------------------------------------------------------

CREATE TABLE IF NOT EXISTS COMMANDER

(

CODE\_PRODUCTION SMALLINT(1) NOT NULL ,

UNITE CHAR(32) NOT NULL

, PRIMARY KEY (CODE\_PRODUCTION,UNITE)

)

comment = "";

# -----------------------------------------------------------------------------

# INDEX DE LA TABLE COMMANDER

# -----------------------------------------------------------------------------

CREATE INDEX I\_FK\_COMMANDER\_PRODUCTION

ON COMMANDER (CODE\_PRODUCTION ASC);

CREATE INDEX I\_FK\_COMMANDER\_UNITE

ON COMMANDER (UNITE ASC);

# -----------------------------------------------------------------------------

# TABLE : LIVRER

# -----------------------------------------------------------------------------

CREATE TABLE IF NOT EXISTS LIVRER

(

ID\_DATE DATE NOT NULL ,

CODE\_PRODUCTION SMALLINT(1) NOT NULL

, PRIMARY KEY (ID\_DATE,CODE\_PRODUCTION)

)

comment = "";

# -----------------------------------------------------------------------------

# INDEX DE LA TABLE LIVRER

# -----------------------------------------------------------------------------

CREATE INDEX I\_FK\_LIVRER\_DATE

ON LIVRER (ID\_DATE ASC);

CREATE INDEX I\_FK\_LIVRER\_PRODUCTION

ON LIVRER (CODE\_PRODUCTION ASC);

# -----------------------------------------------------------------------------

# TABLE : POSSEDER

# -----------------------------------------------------------------------------

CREATE TABLE IF NOT EXISTS POSSEDER

(

CODE\_ELEMENT CHAR(32) NOT NULL ,

ID\_ENGRAIS INTEGER(2) NOT NULL ,

ID\_CULTURE CHAR(32) NOT NULL ,

NUM\_PARCELLE INTEGER(2) NOT NULL

, PRIMARY KEY (CODE\_ELEMENT,ID\_ENGRAIS,ID\_CULTURE,NUM\_PARCELLE)

)

comment = "";

# -----------------------------------------------------------------------------

# INDEX DE LA TABLE POSSEDER

# -----------------------------------------------------------------------------

CREATE INDEX I\_FK\_POSSEDER\_ELEMENT\_CHIMIQUE

ON POSSEDER (CODE\_ELEMENT ASC);

CREATE INDEX I\_FK\_POSSEDER\_ENGRAIS

ON POSSEDER (ID\_ENGRAIS ASC);

CREATE INDEX I\_FK\_POSSEDER\_CULTURE

ON POSSEDER (ID\_CULTURE ASC);

CREATE INDEX I\_FK\_POSSEDER\_PARCELLE

ON POSSEDER (NUM\_PARCELLE ASC);

# -----------------------------------------------------------------------------

# TABLE : VERSER

# -----------------------------------------------------------------------------

CREATE TABLE IF NOT EXISTS VERSER

(

ID\_ENGRAIS INTEGER(2) NOT NULL ,

ID\_CULTURE CHAR(32) NOT NULL

, PRIMARY KEY (ID\_ENGRAIS,ID\_CULTURE)

)

comment = "";

# -----------------------------------------------------------------------------

# INDEX DE LA TABLE VERSER

# -----------------------------------------------------------------------------

CREATE INDEX I\_FK\_VERSER\_ENGRAIS

ON VERSER (ID\_ENGRAIS ASC);

CREATE INDEX I\_FK\_VERSER\_CULTURE

ON VERSER (ID\_CULTURE ASC);

# -----------------------------------------------------------------------------

# TABLE : PRODUIRE

# -----------------------------------------------------------------------------

CREATE TABLE IF NOT EXISTS PRODUIRE

(

NUM\_PARCELLE INTEGER(2) NOT NULL ,

CODE\_PRODUCTION SMALLINT(1) NOT NULL

, PRIMARY KEY (NUM\_PARCELLE,CODE\_PRODUCTION)

)

comment = "";

# -----------------------------------------------------------------------------

# INDEX DE LA TABLE PRODUIRE

# -----------------------------------------------------------------------------

CREATE INDEX I\_FK\_PRODUIRE\_PARCELLE

ON PRODUIRE (NUM\_PARCELLE ASC);

CREATE INDEX I\_FK\_PRODUIRE\_PRODUCTION

ON PRODUIRE (CODE\_PRODUCTION ASC);

# -----------------------------------------------------------------------------

# CREATION DES REFERENCES DE TABLE

# -----------------------------------------------------------------------------

ALTER TABLE COMMANDER

ADD FOREIGN KEY FK\_COMMANDER\_PRODUCTION (CODE\_PRODUCTION)

REFERENCES PRODUCTION (CODE\_PRODUCTION) ;

ALTER TABLE COMMANDER

ADD FOREIGN KEY FK\_COMMANDER\_UNITE (UNITE)

REFERENCES UNITE (UNITE) ;

ALTER TABLE LIVRER

ADD FOREIGN KEY FK\_LIVRER\_DATE (ID\_DATE)

REFERENCES DATE (ID\_DATE) ;

ALTER TABLE LIVRER

ADD FOREIGN KEY FK\_LIVRER\_PRODUCTION (CODE\_PRODUCTION)

REFERENCES PRODUCTION (CODE\_PRODUCTION) ;

ALTER TABLE POSSEDER

ADD FOREIGN KEY FK\_POSSEDER\_ELEMENT\_CHIMIQUE (CODE\_ELEMENT)

REFERENCES ELEMENT\_CHIMIQUE (CODE\_ELEMENT) ;

ALTER TABLE POSSEDER

ADD FOREIGN KEY FK\_POSSEDER\_ENGRAIS (ID\_ENGRAIS)

REFERENCES ENGRAIS (ID\_ENGRAIS) ;

ALTER TABLE POSSEDER

ADD FOREIGN KEY FK\_POSSEDER\_CULTURE (ID\_CULTURE)

REFERENCES CULTURE (ID\_CULTURE) ;

ALTER TABLE POSSEDER

ADD FOREIGN KEY FK\_POSSEDER\_PARCELLE (NUM\_PARCELLE)

REFERENCES PARCELLE (NUM\_PARCELLE) ;

ALTER TABLE VERSER

ADD FOREIGN KEY FK\_VERSER\_ENGRAIS (ID\_ENGRAIS)

REFERENCES ENGRAIS (ID\_ENGRAIS) ;

ALTER TABLE VERSER

ADD FOREIGN KEY FK\_VERSER\_CULTURE (ID\_CULTURE)

REFERENCES CULTURE (ID\_CULTURE) ;

ALTER TABLE PRODUIRE

ADD FOREIGN KEY FK\_PRODUIRE\_PARCELLE (NUM\_PARCELLE)

REFERENCES PARCELLE (NUM\_PARCELLE) ;

ALTER TABLE PRODUIRE

ADD FOREIGN KEY FK\_PRODUIRE\_PRODUCTION (CODE\_PRODUCTION)

REFERENCES PRODUCTION (CODE\_PRODUCTION) ;

**EXERCICE 2**

1.Sans utiliser DISTINCT

a/

SELECT Num\_Client

FROM Compte

WHERE solde < 1000

UNION

SELECT Num\_Client

FROM Compte

WHERE solde > 100000;

2.

a/

SELECT Num\_Client FROM CLIENT WHERE NUM\_Client NOT IN ( SELECT Num\_Client FROM COMPTE WHERE Num\_Agence IN ( SELECT Num\_Agence FROM COMPTE WHERE Num\_Client IN ( SELECT Num\_Client FROM CLIENT WHERE Nom = ‘Bettencourt AND Prenom = ‘Liliane’;

b/

SELECT Num\_Agence

FROM AGENCE

WHERE Actif > All ( SELECT Actif FROM AGENCE WHERE Ville = ‘Saint-Ouen’);

c/

SELECT Num\_Agence, AVG(Solde) AS Solde\_Moyen FROM COMPTE GROUP BY Num\_Agence Having AVG(Solde) > 10000;

3.1)  
CREATE TABLE Privilege (

id INT PRIMARY KEY,

nomTable VARCHAR(255),

idUtilisateur INT,

droit ENUM('SELECT', 'INSERT', 'UPDATE', 'DELETE', 'ALL'),

FOREIGN KEY (nomTable) REFERENCES Table(nomTable),

FOREIGN KEY (idUtilisateur) REFERENCES Utilisateur(id)

);

3.2)

CREATE TABLE Privilege (

id INT PRIMARY KEY,

nomTable VARCHAR(255),

idUtilisateur INT,

droit ENUM('SELECT', 'INSERT', 'UPDATE', 'DELETE', 'ALL'),

FOREIGN KEY (nomTable) REFERENCES Table(nomTable),

FOREIGN KEY (idUtilisateur) REFERENCES Utilisateur(id)

);

3.3)

SELECT Utilisateur.nom, Utilisateur.prenom

FROM Utilisateur

JOIN Table ON Utilisateur.id = Table.idCreateur

GROUP BY Utilisateur.id

HAVING COUNT(\*) = (

SELECT MAX(tableCount)

FROM (

SELECT COUNT(\*) AS tableCount

FROM Table

GROUP BY idCreateur

) AS Counts

);