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Compte rendu partie 2 à 5 SAE S1.04 Création d'une base de données

Table des matières

1. Introduction : On a fait la conception d'une base de donnée qui consiste à définir les éléments de données nécessaires pour un projet et à les organiser de manière logique afin de faciliter l'accès et l'utilisation de ces données.
Pour cela on a créer des tables avec des clés primaires, étrangères , des check, des inserts et des selects.

2. Schéma logique :

(R1) (R2) (R3) (R4)
Client (<u>N°Client</u>, CodeAv, Civilité, Nom, Prenom, Telephone, Tportable, Email, DateN, Ville, Adresse, CodePostal)
Article (<u>CodeA</u>, numPage, nomA, tailleA, prixU)
Commander (<u>CodeA#, N°BC#,</u>Quantité)
BonCommande (<u>N°BC</u>, DateBC, TypedePaiement, N°Client#, CodeLiv#, N°CB#)
CarteCB (<u>numCB</u>, dateExpiCB, cryptoCB)
Livraison (<u>CodeLiv,</u>ModeLiv, FraisLiv, N°PtRelais#, CodeAdr#)
AdrLivraison (<u>CodeAdr</u>, AdresseLiv, CodePostalLiv, VilleLiv, N°Client#)
PtRelais (<u>N°PtRelais</u>, NomPtRelais, AdressePtRelais, CodePostalPtRelais, VillePtRelais)

3. Requêtes :

DROP TABLE COMMANDER;

DROP TABLE BONCOMMANDE;

DROP TABLE LIVRAISON;

DROP TABLE ADRLIVRAISON;

DROP TABLE CLIENT;

DROP TABLE ARTICLE;

DROP TABLE CARTECB;

```sql
DROP TABLE PTRELAIS;

CREATE TABLE CLIENT (
    NUMCLIENT DECIMAL(6),
    CODEAV DECIMAL(12),
    CIVILITE VARCHAR(3),
    NOM VARCHAR(30),
    PRENOM VARCHAR(30),
    ADRESSE VARCHAR(50),
    CODEPOSTAL DECIMAL(5),
    VILLE VARCHAR(30),
    TELEPHONE DECIMAL(10),
    TPORTABLE DECIMAL(10),
    DATEN VARCHAR (30),
    EMAIL VARCHAR(30),
    CONSTRAINT PK_CLIENT PRIMARY KEY (NUMCLIENT),
    CONSTRAINT CK_CLIENT_NUMCLIENT CHECK (NUMCLIENT > 0),
    CONSTRAINT CK_CLIENT_CIVILITE CHECK (CIVILITE IN ('Mme',
'M.'))

);

CREATE TABLE ARTICLE (
    CODEA DECIMAL(8),
    NOMA VARCHAR(30),
    NUMPAGE DECIMAL(3),
    TAILLE VARCHAR(12),
    PRIXU DECIMAL(5),
    CONSTRAINT PK_ARTICLE PRIMARY KEY (CODEA),
    CONSTRAINT CK_ARTICLE_CODEA CHECK (CODEA > 0),
    CONSTRAINT CK_ARTICLE_PRIXU CHECK (PRIXU > 0),
    CONSTRAINT CK_ARTICLE_NUMPAGE CHECK (NUMPAGE > 0)
);

CREATE TABLE ADRLIVRAISON (
    CODEADRLIV DECIMAL(6),
    ADRESSELIV VARCHAR(50),
    CODEPOSTALLIV DECIMAL(5),
    VILLELIV VARCHAR(50),
    NUMCLIENT DECIMAL(6),
    CONSTRAINT PK_ADRLIVRAISON PRIMARY KEY (CODEADRLIV),
```

```sql
    CONSTRAINT FK_ADRLIVRAISON_NUMCLIENT FOREIGN KEY
(NUMCLIENT) REFERENCES CLIENT(NUMCLIENT),
    CONSTRAINT CK_ADRLIVRAISON_CODEADRLIV CHECK
(CODEADRLIV > 0)
);

CREATE TABLE PTRELAIS (
    NUMPTRELAIS DECIMAL(6),
    NOMPTRELAIS VARCHAR(30),
    ADRESSEPTRELAIS VARCHAR(50),
    CODEPPTRELAIS DECIMAL (5),
    VILLEPTRELAIS VARCHAR (30),
    CONSTRAINT PK_PTRELAIS PRIMARY KEY (NUMPTRELAIS),
    CONSTRAINT CK_PTRELAIS_NUMPTRELAIS CHECK
(NUMPTRELAIS > 0)
);

CREATE TABLE LIVRAISON (
    CODELIV DECIMAL(6),
    MODELIV VARCHAR(30),
    FRAISLIV DECIMAL(3),
    CODEADRLIV DECIMAL(6),
    NUMPTRELAIS DECIMAL(6),
    CONSTRAINT PK_LIVRAISON PRIMARY KEY (CODELIV),
    CONSTRAINT FK_LIVRAISON_ADRLIV FOREIGN KEY
(CODEADRLIV) REFERENCES ADRLIVRAISON(CODEADRLIV),
    CONSTRAINT FK_LIVRAISON_NUMPTRELAIS FOREIGN KEY
(NUMPTRELAIS) REFERENCES PTRELAIS(NUMPTRELAIS),
    CONSTRAINT CK_LIVRAISON_FRAISLIV CHECK (FRAISLIV IN
(NULL, 5.50, 7.50, 6.00)),
    CONSTRAINT CK_LIVRAISON_MODELIV CHECK (MODELIV IN
('Standard Domicile', 'Rapide Domicile', 'Rapide Postal', 'Rapide Pickup')),
    CONSTRAINT CK_LIVRAISON_CODELIV CHECK (CODELIV > 0)
);

CREATE TABLE CARTECB (
    NUMCB DECIMAL(16),
    DATEEXPIR VARCHAR(30),
    CRYPTO DECIMAL(3),
    CONSTRAINT PK_CARTECB PRIMARY KEY (NUMCB),
    CONSTRAINT CK_CARTECB_NUMCB CHECK (NUMCB > 0)
);
```

```sql
CREATE TABLE BONCOMMANDE (
    NUMBC DECIMAL(6),
    DATEBC VARCHAR(30) ,
    TYPEPAIEMENT VARCHAR(30),
    NUMCLIENT DECIMAL(6),
    NUMCB DECIMAL(16),
    CODELIV DECIMAL(6),
    CONSTRAINT PK_BONCOMMANDE PRIMARY KEY (NUMBC),
    CONSTRAINT FK_BONCOMMANDE_NUMCLIENT FOREIGN KEY
(NUMCLIENT) REFERENCES CLIENT(NUMCLIENT),
    CONSTRAINT FK_BONCOMMANDE_NUMCB FOREIGN KEY
(NUMCB) REFERENCES CARTECB(NUMCB),
    CONSTRAINT FK_BONCOMMANDE_CODELIV FOREIGN KEY
(CODELIV) REFERENCES LIVRAISON(CODELIV)
);

CREATE TABLE COMMANDER (
    CODEA DECIMAL(8),
    NUMBC DECIMAL(6),
    QUANTITE DECIMAL(3),
    CONSTRAINT PK_COMMANDER PRIMARY KEY (CODEA, NUMBC),
    CONSTRAINT FK_COMMANDER_CODEA FOREIGN KEY (CODEA)
REFERENCES ARTICLE(CODEA),
    CONSTRAINT FK_COMMANDER_NUMBC FOREIGN KEY (NUMBC)
REFERENCES BONCOMMANDE(NUMBC),
    CONSTRAINT CK_COMMANDER_QUANTITE CHECK (QUANTITE >
0)
);

INSERT INTO Client
(numclient,codeav,civilite,nom,prenom,adresse,codepostal,ville,telephone,tport
able,daten,email)
    VALUES (324620, NULL, 'Mme', 'Aztakes', 'Helene', 'Rue Ferrari', 31000,
'Toulouse', 0502030405, 0601020304, '1969/01/01','haztakes@gmail.com');

INSERT INTO Client
(numclient,codeav,civilite,nom,prenom,adresse,codepostal,ville,telephone,tport
able,daten,email)
    VALUES (325220, NULL, 'M.', 'Assein', 'Marc', 'Place du chene', 31000,
'Toulouse', 0503070809, 0602030415, '1957/08/18','marcassein@gmail.com');
```

INSERT INTO Client
(numclient,codeav,civilite,nom,prenom,adresse,codepostal,ville,telephone,tportable,daten,email)
     VALUES (333100, NULL, 'M.', 'Terrieur', 'Alain', 'Avenue Principale', 31000, 'Toulouse', 0503040506, 0603040506, '1960/07/14','alainter4@gmail.com');

INSERT INTO Article (codea,noma,numpage,taille,prixu)
   VALUES ('55433111','Taie doreiller', '12', '50*70', '1039');

INSERT INTO Article (codea,noma,numpage,taille,prixu)
   VALUES ('55467108', 'Taie de traversin', '12', '85*185', '1119');

INSERT INTO Article (codea,noma,numpage,taille,prixu)
   VALUES('55463103', 'Drap plat', '12', '240*300', '3439');

INSERT INTO Article (codea,noma,numpage,taille,prixu)
   VALUES ('55467109', 'Drap housse', '12', '140*190', '2479');

INSERT INTO Article (codea,noma,numpage,taille,prixu)
   VALUES ('56952031', 'Couverture Thermodactyl', '16', '220*240', '6449');

   INSERT INTO Article (codea,noma,numpage,taille,prixu)
   VALUES ('56952032', 'Couverture Thermodactyl', '16', '220*240', '6449');

INSERT INTO Article (codea,noma,numpage,taille,prixu)
   VALUES ('55463000', 'Drap plat', '12', '240*300', '1839');

INSERT INTO Article (codea,noma,numpage,taille,prixu)
   VALUES ('51790004', 'Housse de couette', '13', '260*240', '8299');

INSERT INTO Article (codea,noma,numpage,taille,prixu)
   VALUES ('56952033', 'Couverture Thermodactyl', '16', '260*240', '7449');

   INSERT INTO AdrLivraison
(codeadrliv,adresseliv,codepostalliv,villeliv,numclient)
   VALUES ('123456','Rue Ferrari', '31000', 'Toulouse', '324620');

INSERT INTO AdrLivraison
(codeadrliv,adresseliv,codepostalliv,villeliv,numclient)
   VALUES('123457','Place du chene', '31000', 'Toulouse', '325220');

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INSERT INTO AdrLivraison
(codeadrliv,adresseliv,codepostalliv,villeliv,numclient)
    VALUES('123458','Avenue Pricipale', '31400', 'Toulouse', '333100 ');

    INSERT INTO PtRelais
(numptrelais,nomptrelais,adresseptrelais,codepptrelais,villeptrelais)
    VALUES ('909032', 'VETJ CIG', '7 GRAND RUE', '31000', 'Toulouse');

INSERT INTO PtRelais
(numptrelais,nomptrelais,adresseptrelais,codepptrelais,villeptrelais)
    VALUES('811400', 'NULL', '5 ALLES JEAN JAURES', '31000', 'Toulouse');

INSERT INTO Livraison (codeliv,modeliv,fraisliv,codeadrliv,numptrelais)
    VALUES ('000001', 'Standard Domicile', NULL, '123456', '909032');

INSERT INTO Livraison (codeliv,modeliv,fraisliv,codeadrliv,numptrelais)
    VALUES('000002', 'Rapide Postal', NULL, '123457', '811400');

INSERT INTO Livraison (codeliv,modeliv,fraisliv,codeadrliv,numptrelais)
    VALUES('000003', 'Rapide Postal', NULL, '123458', '811400');

INSERT INTO Livraison (codeliv,modeliv,fraisliv,codeadrliv,numptrelais)
    VALUES('000004', 'Rapide Domicile', '7,50','123457' , '811401');

INSERT INTO Livraison (codeliv,modeliv,fraisliv,codeadrliv,numptrelais)
    VALUES('000005', 'Standard Domicile', NULL,'123458' , '811400');

INSERT INTO CarteCB (numcb,dateexpir,crypto)
    VALUES ('000123456789000', '2023-10-10', '130');

INSERT INTO CarteCB (numcb,dateexpir,crypto)
    VALUES('000123456789001', '2024-10-10', '123');

INSERT INTO CarteCB (numcb,dateexpir,crypto)
    VALUES('000112233445000', '2025-01-23', '124');

    INSERT INTO
BonCommande(numbc,datebc,typepaiement,numclient,numcb,codeliv)
    VALUES ('202041',NULL, 'carte bancaire','324620','000123456789000',
'000001');
```

```sql
INSERT INTO
BonCommande(numbc,datebc,typepaiement,numclient,numcb,codeliv)
    VALUES ('202042',NULL, 'carte bancaire','324620', '000123456789000',
'000002');

    INSERT INTO
BonCommande(numbc,datebc,typepaiement,numclient,numcb,codeliv)
    VALUES ('202044',NULL, 'chèque bancaire','325220', NULL, '000003');

    INSERT INTO
BonCommande(numbc,datebc,typepaiement,numclient,numcb,codeliv)
    VALUES  ('202043',NULL, 'chèque bancaire','324620', NULL, '000004');

    INSERT INTO
BonCommande(numbc,datebc,typepaiement,numclient,numcb,codeliv)
    VALUES ('202045',NULL, 'carte bancaire','333100', '000112233445000',
'000005');

INSERT INTO Commander (codea,numbc,quantite)
    VALUES ('55433111', '202041', '2');

INSERT INTO Commander (codea,numbc,quantite)
    VALUES('55467108','202041', '1');

INSERT INTO Commander (codea,numbc,quantite)
    VALUES('55463103','202041', '1');

INSERT INTO Commander (codea,numbc,quantite)
    VALUES('55467109','202041', '1');

INSERT INTO Commander (codea,numbc,quantite)
    VALUES('56952031','202042 ', '1');

INSERT INTO Commander (codea,numbc,quantite)
    VALUES ('56952032','202044', '2');

INSERT INTO Commander (codea,numbc,quantite)
    VALUES('55463000','202043', '2');

INSERT INTO Commander (codea,numbc,quantite)
    VALUES('51790004','202045', '1');
```

```sql
INSERT INTO Commander (codea,numbc,quantite)
   VALUES('56952033','202045', '2');



SELECT
   COUNT(*)
FROM
   BONCOMMANDE;


SELECT
   SUM(QUANTITE*PRIXU) AS MONTANTTOTAL,
   COUNT(*)        AS NOMBRECOMMANDES
FROM
   COMMANDER,
   ARTICLE
WHERE
   COMMANDER.CODEA = ARTICLE.CODEA;

SELECT NOMA, SUM(QUANTITE) as total_sales
FROM BONCOMMANDE JOIN ARTICLE ON BONCOMMANDE.CODEA
= ARTICLE.CODEA
GROUP BY NOMA;

SELECT NOM, PRENOM, COUNT(*) AS NOMBRECOMMANDES FROM
BONCOMMANDE JOIN CLIENT ON BONCOMMANDE.NUMCLIENT =
CLIENT.NUMCLIENT GROUP BY NOM, PRENOM;

SELECT
   VILLE,
   COUNT(*)        AS NOMBRECOMMANDES,
   SUM(QUANTITE*PRIXU) AS MONTANTTOTAL
FROM
   BONCOMMANDE,
   CLIENT,
   COMMANDER,
   ARTICLE
WHERE
   BONCOMMANDE.NUMCLIENT = CLIENT.NUMCLIENT
   AND COMMANDER.NUMBC = BONCOMMANDE.NUMBC
   AND COMMANDER.CODEA = ARTICLE.CODEA
```

```
GROUP BY
    VILLE;


SELECT
    PRIXU
FROM
    ARTICLE
WHERE
    CODEA = '56952031';


SELECT
    NUMCLIENT,
    QUANTITE
FROM
    BONCOMMANDE,
    COMMANDER
WHERE
    BONCOMMANDE.NUMBC = COMMANDER.NUMBC
    AND CODEA = '56952031';
```

4. Conclusion: On est donc parvenu à concevoir la base de données (BD) permettant de gérer les données inhérentes aux bons de commandes passés par les clients de la société.