**Corriger de TP** modèle des données relationnel

**Enoncé 1**

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Création la base de données

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CREATE DATABASE db\_vehicule CHARACTER SET utf8 COLLATE utf8\_general\_ci;

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Création la table personnes

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USE db\_vehicule ;

CREATE TABLE Personnes

(

Id\_personne INT PRIMARY KEY AUTO\_INCREMENT,

nom VARCHAR (40) NOT null,

prenom varchar (40) NOT NULL,

num\_rue INT NULL,

Rue VARCHAR (11) NOT NULL,

CP CHAR (5) NOT NULL CHECK (CP > 9600),

ville VARCHAR (11) NOT NULL

) ENGINE=INNODB;

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créations la table vehicules

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USE db\_vehicule ;

CREATE TABLE vehicules

(

immatriculation char (7),

id\_personne int,

Marque varchar(20) not null,

kilometrage int (11) not null,

date\_mise\_en\_service DATE not null,

CONSTRAINT PK\_vehicules PRIMARY KEY( immatriculation),

CONSTRAINT FK\_Personne FOREIGN KEY (id\_personne) REFERENCES personnes(id\_personne)

)ENGINE=INNODB;

**Enoncé 2**

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Création la base de données

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create database ecole

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création la table etudiants

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USE ecole ;

create table etudiants

(

id\_etudiant int unsigned not null auto\_increment;

nom varchar(100) not null,

prenom varchar(100) not null,

date\_entree date not null,

CONSTRAINT pk\_etudiant PRIMARY KEY (id\_etudiant)

) ENGINE=InnoDB;

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Création la table matieres

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USE ecole;

create table MATIERES

(

id\_matiere SMALLINT not null AUTO\_INCREMENT PRIMARY KEY;

lib\_matiere text,

coeff tinyint

) ENGINE=InnoDB;

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Création la table controles

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USE ecole ;

create table controles

(

id\_etudiant int unsigned not null;

id\_matiere SMALLINT not null,

date\_exam datetime not null,

CONSTRAINT pk\_controle PRIMARY KEY (id\_etudiant, id\_matiere, date\_exam)

) ENGINE=InnoDB;

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Création la relation entre les tables

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USE ecole;

ALTER TABLE controles ADD CONSTRAINT FK\_etudiant FOREIGN KEY (id\_etudiant) REFERENCES etudiants(id\_etudiant);

ALTER TABLE controles ADD CONSTRAINT FK\_matiere FOREIGN KEY (id\_matiere) REFERENCES matieres(id\_matiere);

**Enoncé 3**

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Création la base de données

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create database ecole

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création la table etudiants

-----------------------------------------------------

USE ecole ;

create table etudiants

(

id\_etudiant int unsigned not null auto\_increment;

nom varchar(100),

prenom varchar(100),

date\_entree date not null DEFAULT GETDATE(), //(timestamp NULL DEFAULT CURRENT\_TIMESTAMP)

CONSTRAINT pk\_etudiant PRIMARY KEY (id\_etudiant)

) ENGINE=InnoDB;

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Création la table matieres

-----------------------------------------------------

USE ecole;

create table MATIERES

(

id\_matiere SMALLINT not null AUTO\_INCREMENT PRIMARY KEY;

lib\_matiere text,

coeff tinyint CHECK (coeff < 10)

) ENGINE=InnoDB;

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Création la table controles

-----------------------------------------------------

USE ecole ;

create table controles

(

id\_etudiant int unsigned not null;

id\_matiere SMALLINT not null,

date\_exam datetime not null,

note decimal(4,2) not null ,

CONSTRAINT pk\_controle PRIMARY KEY (id\_etudiant, id\_matiere, date\_exam),

CONSTRAINT CK\_note CHECK( note BETWEEN 0 AND 20);

) ENGINE=InnoDB;

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Création la relation entre les tables

-----------------------------------------------------

USE ecole;

ALTER TABLE controles ADD CONSTRAINT FK\_etudiant FOREIGN KEY (id\_etudiant) REFERENCES etudiants(id\_etudiant);

ALTER TABLE controles ADD CONSTRAINT FK\_matiere FOREIGN KEY (id\_matiere) REFERENCES matieres(id\_matiere);

**Enoncé 4**

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Création la base de données

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create database livre

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création la table etudiants

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USE livre;

create table livres

(

isbn INT(13) unsigned PRIMARY KEY;

titre VARCHAR(100) not null,

) ENGINE=InnoDB;

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Création la table exemplaire

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USE livre;

create table exemplaire

(

num\_exempl int unsigned not null,

isbn INT (13) unsigned not null,

etat CHAR (1) DEFAULT ‘D’,

CONSTRAINT PK\_exemplaire primary key (num\_exempl, isbn),

CONSTRAINT CK\_etat CHECK ( etat IN(‘P’,’E’, ‘ D’))

) ENGINE=InnoDB;

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Ajouter clé étrangère à la table exemplaire

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USE livre;

ALTER TABLE exemplaire ADD CONSTRAINT FK\_livre foreign key (isbn) REFERENCES livres (isbn);

**Enoncé 5**

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Création la base de données

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create database db\_magasin

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création la table rayons

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USE db\_magasin ;

create table rayons

(

NomR VARCHAR (20) PRIMARY KEY

) ENGINE=InnoDB;

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Création la table articles

-----------------------------------------------------

USE db\_magasin;

create table articles

(

codeA int unsigned PRIMARY KEY,

NomA VARCHAR (20) not null,

Type CHAR (1)

) ENGINE=InnoDB;

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création la table magasin

-----------------------------------------------------

USE db\_magasin ;

create table magasin

(

codeM INT unsigned PRIMARY KEY,

nomM VARCHAR(20) not null

) ENGINE=InnoDB;

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création la table vente

-----------------------------------------------------

USE db\_magasin;

create table vente

(

Num\_vent int unsigned PRIMARY KEY,

codeA int unsigned not null,

NomR VARCHAR (20) not null,

codeM int unsigned not null,

quantité tinyint not null,

datecommande date not null

) ENGINE=InnoDB;

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Ajouter clé étrangère à la table vente

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USE db\_magasin;

ALTER TABLE vente ADD CONSTRAINT FK\_rayon foreign key (NomR) REFERENCES rayons (NomR);

ALTER TABLE vente ADD CONSTRAINT FK\_magasin foreign key (codeM) REFERENCES magasin (codeM);

ALTER TABLE vente ADD CONSTRAINT FK\_article foreign key (codeA) REFERENCES articles (codeA);

ALTER TABLE Article ADD CONSTRAINT CK\_type\_article CHECK ( Type IN (‘P’,’L’, ‘D’) );

**Enoncé 6**

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Création la base de données

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create database suppermarche

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création la table employes

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USE suppermarche ;

create table employes

(

codeE INT unsigned PRIMARY KEY,

nom VARCHAR(20) not null,

salaire decimal (5,2) not null,

NomRayon VARCHAR (20) not null,

code\_chef INT unsigned,

) ENGINE=InnoDB;

CREATE INDEX indexEmploye ON employes (nom);

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création la table rayons

-----------------------------------------------------

USE suppermarche;

create table rayons

(

NomRayon VARCHAR (20) PRIMARY KEY,

Etage tinyint unsigned not null

) ENGINE=InnoDB;

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Création la table articles

-----------------------------------------------------

USE suppermarche ;

create table articles

(

codeA int unsigned PRIMARY KEY,

NomA VARCHAR (20),

Type VARCHAR (30) ,

NomRayon VARCHAR (20)

) ENGINE=InnoDB;

CREATE INDEX indexArticles ON articles (Type);

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Création la table fournisseur

-----------------------------------------------------

USE suppermarche ;

create table fournisseur

(

codeF int unsigned PRIMARY KEY,

adress VARCHAR (150),

NomF VARCHAR (30)

) ENGINE=InnoDB;

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création la table livraison

-----------------------------------------------------

USE suppermarche ;

create table livraison

(

codeF int unsigned not null,

codeA int unsigned not null,

quantite tinyint unsigned not null,

CONSTRAINT PK\_livraison PRIMARY KEY (codeF, codeA)

) ENGINE=InnoDB;

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Ajouter les clé étrangère

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USE suppermarche ;

ALTER TABLE livraison ADD CONSTRAINT FK\_fournisseur foreign key (codeF) REFERENCES fournisseur(codeF);

ALTER TABLE livraison ADD CONSTRAINT FK\_article foreign key (codeA) REFERENCES articles(codeA);

ALTER TABLE articles ADD CONSTRAINT FK\_rayon foreign key (nomRayon) REFERENCES rayons(NomRayon);

ALTER TABLE employes ADD CONSTRAINT FK\_rayons foreign key (nomRayon) REFERENCES rayons(NomRayon);

ALTER TABLE employes ADD CONSTRAINT FK\_codeE\_chef foreign key (codeE\_chef) REFERENCES employes(codeE);

**Enoncé 7**

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Création la base de données

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create database vinification;

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création la table buveur

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USE vinification ;

create table buveur

(

Num\_buv INT not null,

Nom\_buv VARCHAR(30) not null,

prenom\_buv VARCHAR(30) not null,

ville\_buv VARCHAR (50) not null,

PRIMARY KEY (Num\_buv)

) ENGINE=InnoDB;

CREATE INDEX indexBuveur ON Buveur (num\_buv, prenom\_buv);

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création la table commandes

-----------------------------------------------------

USE vinification;

create table commandes

(

Num\_comm INT unsigned PRIMARY KEY,

Date\_comm date not null,

Num\_buv INT unsigned not null

) ENGINE=InnoDB;

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Création la table vignerons

-----------------------------------------------------

USE vinification;

create table vignerons

(

num\_vign int not null,

nom\_vign VARCHAR (30) not null,

prenom\_vign VARCHAR (30) not null,

ville\_vign VARCHAR (50) not null,

constraint PK\_vinification PRIMARY KEY (num\_vign),

constraint UQ\_vinification UNIQUE (nom\_vign, prenom\_vign)

) ENGINE=InnoDB;

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Création la table vin

-----------------------------------------------------

USE vinification;

create table vin

(

Num\_vin int unsigned PRIMARY KEY,

cru boolean not null,

millesime date not null,

num\_vign int unsigned not null

) ENGINE=InnoDB;

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création la table ligne\_commande

-----------------------------------------------------

USE vinification;

create table ligne\_commande

(

Num\_vin int unsigned not null,

Num\_comm INT unsigned not null,

quantite tinyint unsigned not null,

CONSTRAINT PK\_ligne\_commande PRIMARY KEY (Num\_vin, Num\_comm)

) ENGINE=InnoDB;

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création la table appreciation\_vigneron

-----------------------------------------------------

USE vinification;

create table appreciation\_vigneron

(

Num\_vign\_appreciant int unsigned not null,

Num\_vign\_apprecie int unsigned not null,

Note decimal (4,2) not null,

CONSTRAINT PK\_appreciation\_vigneron PRIMARY KEY (Num\_vign\_appreciant, Num\_vign\_apprecie)

) ENGINE=InnoDB;

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création VIEW

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USE vinification;

CREATE VIEW VueBuveur\_comm AS SELECT nom\_buv, prenom\_buv, FROM buveur

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Ajouter clé étrangères

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USE vinification;

ALTER TABLE commandes ADD CONSTRAINT FK\_buveur foreign key (num\_buv) REFERENCES buveur(num\_buv);

ALTER TABLE vin ADD CONSTRAINT FK\_vignerons foreign key (num\_vign) REFERENCES vignerons(num\_vign);

ALTER TABLE ligne\_commande ADD CONSTRAINT FK\_vin foreign key (num\_vin) REFERENCES vin(num\_vin);

ALTER TABLE ligne\_commande ADD CONSTRAINT FK\_commandes foreign key (num\_comm) REFERENCES commandes(num\_comm);

ALTER TABLE appreciation\_vigneron ADD CONSTRAINT FK\_appreciant foreign key (Num\_vign\_appreciant) REFERENCES vignerons (num\_vign);

ALTER TABLE appreciation\_vigneron ADD CONSTRAINT FK\_apprecie foreign key (Num\_vign\_apprecie) REFERENCES vignerons (num\_vign);