

Question 1 - 6 :

```
CREATE TABLE EMPLOYE (  
  ID_EMP SMALLINT NOT NULL,  
  NOM VARCHAR(20) NOT NULL,  
  PRENOM VARCHAR(20) NOT NULL,  
  FONCTION VARCHAR(11) NOT NULL CHECK (FONCTION IN ('Calcul', 'Gestion','Information')),  
  ID_CHEF SMALLINT,  
  DATE_EMB DATE,  
  SALAIRE INT NOT NULL,  
  PRIME INT NOT NULL,  
  ID_PROJECT SMALLINT,  
  PRIMARY KEY (ID_EMP),  
  FOREIGN KEY (ID_CHEF) REFERENCES EMPLOYE(ID_EMP));
```

```
CREATE TABLE DIRECTION (  
  ID_DIR SMALLINT NOT NULL,  
  NOM VARCHAR(20) NOT NULL,  
  ID_RESP SMALLINT,  
  VILLE VARCHAR(9),  
  PRIMARY KEY (ID_DIR),  
  FOREIGN KEY (ID_RESP) REFERENCES EMPLOYE(ID_EMP));
```

```
CREATE TABLE PROJET (  
  ID_PROJ SMALLINT NOT NULL,  
  NOM VARCHAR(20) NOT NULL,  
  ID_CHEF_PROJET SMALLINT,  
  PRIMARY KEY (ID_PROJ),  
  FOREIGN KEY (ID_CHEF_PROJET) REFERENCES EMPLOYE(ID_EMP));
```

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ALTER TABLE EMPLOYE ADD CONSTRAINT check_salaire CHECK (SALAIRE<=40000);  
ALTER TABLE EMPLOYE ADD FOREIGN KEY (ID_PROJECT) REFERENCES PROJET(ID_PROJ);
```

7.
ALTER TABLE EMPLOYE ADD CONSTRAINT DEFAULT_DATE_EMB CHECK (DATE_EMB = CURRENT_DATE);

8.
ALTER TABLE DIRECTION ADD CONSTRAINT CK_VILLE_DIRECTIONS CHECK (VILLE IN ('Cambridge', 'Oxford','Londres'));

9.
ALTER TABLE EMPLOYE ADD CONSTRAINT Q_NOM_PRENOM UNIQUE (NOM,PRENOM);

10.
ALTER TABLE EMPLOYE
ADD CONSTRAINT CK_SALAIRE CHECK (SALAIRE >=1000);

11.
ALTER TABLE EMPLOYE ADD CONSTRAINT CK_SALAIRE_PRIME_MAX CHECK (SALAIRE + PRIME <=40000);

12.
ALTER TABLE EMPLOYE ADD CONSTRAINT CK_CHEF_EMPLOYE CHECK (ID_CHEF IN (SELECT ID_EMP FROM EMPLOYE));
ALTER TABLE PROJET ADD CONSTRAINT CK_CHEF_PROJET CHECK (ID_CHEF_PROJET IN (SELECT ID_EMP FROM EMPLOYE));
ALTER TABLE DIRECTION ADD CONSTRAINT CK_RESPONSABLE_DIRECTION CHECK (ID_RESP IN (SELECT ID_EMP FROM EMPLOYE));

13.
ALTER TABLE EMPLOYE ADD CONSTRAINT CK_EMPLOYE_PROJET FOREIGN KEY (ID_PROJET) REFERENCES PROJET(ID_PROJ);

14.
ALTER TABLE EMPLOYE ADD CONSTRAINT CK_CHEF_EMPLOYE CHECK (ID_CHEF IS NOT NULL);

15.
ALTER TABLE PROJET
ADD CONSTRAINT CK_CHEF_PROJET
FOREIGN KEY (ID_CHEF_PROJET)
REFERENCES EMPLOYE(ID_EMP)

16.
ALTER TABLE EMPLOYE ADD CONSTRAINT CK_BUDJET_GLOBAL CHECK (SALAIRE + PRIME <=10000000);