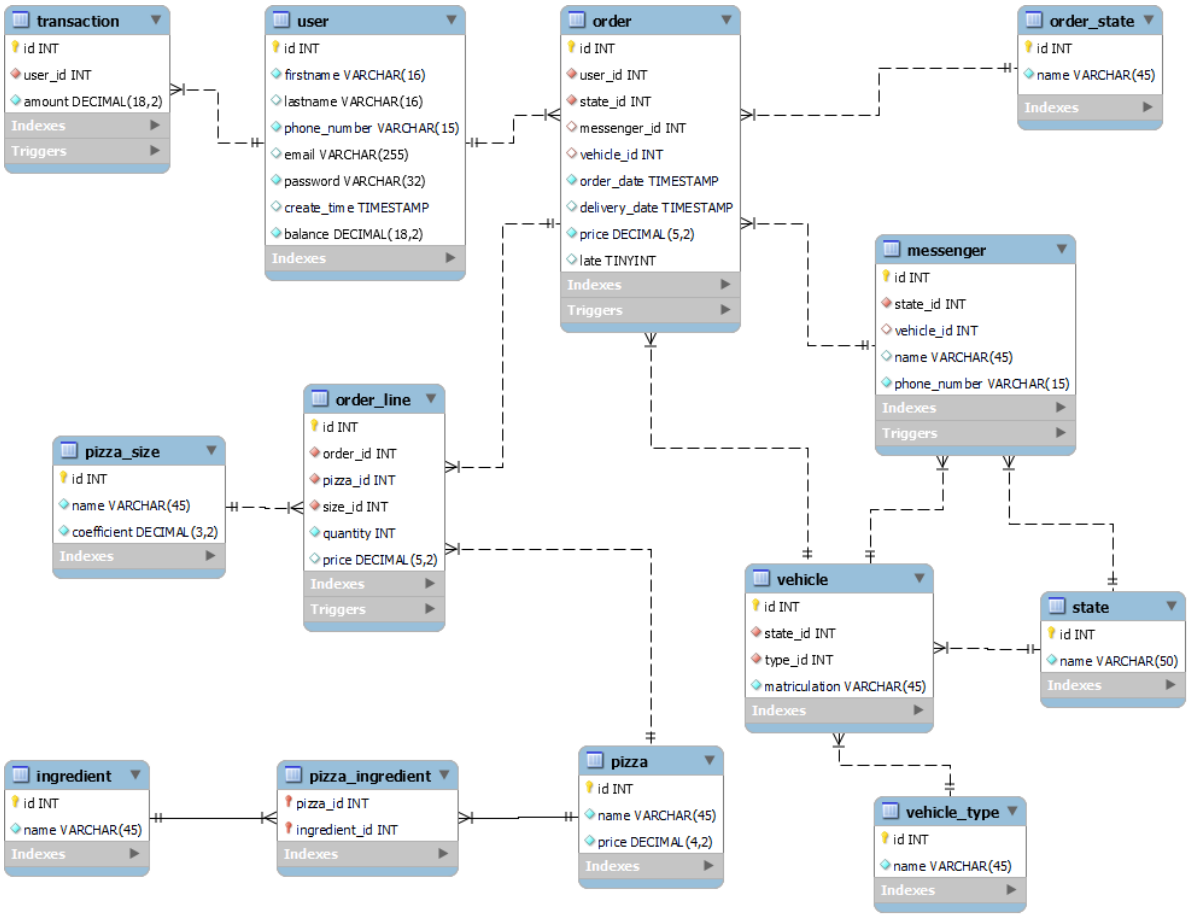
Rapport du projet de gestion de l'entreprise de pizzas à domicile : FlashPizza.

I. Conception de la base de données

A. Modèle entité-association



B. Modèle relationnel

USER(id, firstname, lastname, balance, phone_number, email, password)
- id : clé primaire

TRANSACTION(id, user_id, amount)
- id : clé primaire
- user_id : clé étrangère ref à id dans USER

STATE(id, name)
- id : clé primaire

VEHICLE_TYPE(id, name)
- id : clé primaire

VEHICLE(id, state_id, type_id, matriculation)
- id : clé primaire
- state_id : clé étrangère ref à id dans STATE
- type_id : clé étrangère ref à id dans VEHICLE_TYPE

MESSENGER(id, state_id ,name, phone_number, vehicle_id)
- id : clé primaire
- state_id : clé étrangère ref à id dans STATE

ORDER_STATE(id, name)
- id : clé primaire

ORDER(id, user_id, state_id, messenger_id, vehicle_id, oder_date, delivery_date, price, late)
- id : clé primaire
- user_id : clé étrangère ref à id dans USER
- state_id : clé étrangère ref à id dans ORDER_STATE
- messenger_id : clé étrangère ref à id dans MESSENGER
- vehicle_id : clé étrangère ref à id dans VEHICLE

PIZZA(id, name, price)
- id : clé primaire

PIZZA_SIZE(id, name, coefficient)
- id : clé primaire

ORDER_LINE(id, order_id, pizza_id, size_id, quantity, price)
- id : clé primaire
- order_id : clé étrangère ref à id dans ORDER
- pizza_id : clé étrangère ref à id dans PIZZA
- size_id : clé étrangère ref à id dans PIZZA_SIZE

INGREDIENT(id, name)
- id : clé primaire

PIZZA_INGREDIENT(pizza_id, ingredient_id)
- pizza_id, ingredient_id : clé primaire
- pizza_id : clé étrangère ref à id dans PIZZA
- ingredient_id : clé étrangère ref à id dans INGREDIENT

C. Script de la création des tables

```
-- MySQL Script generated by MySQL Workbench
-- Sun Jun 19 20:05:10 2022
-- Model: New Model    Version: 1.0
-- MySQL Workbench Forward Engineering

SET @OLD_UNIQUE_CHECKS=@@UNIQUE_CHECKS, UNIQUE_CHECKS=0;
SET @OLD_FOREIGN_KEY_CHECKS=@@FOREIGN_KEY_CHECKS, FOREIGN_KEY_CHECKS=0;
SET @OLD_SQL_MODE=@@SQL_MODE,
SQL_MODE='ONLY_FULL_GROUP_BY,STRICT_TRANS_TABLES,NO_ZERO_IN_DATE,NO_ZERO_DATE,ERROR_FOR_
DIVISION_BY_ZERO,NO_ENGINE_SUBSTITUTION';

-- -----------------------------------------------------
-- Schema flashpizza
-- -----------------------------------------------------

-- -----------------------------------------------------
-- Schema flashpizza
-- -----------------------------------------------------
CREATE SCHEMA IF NOT EXISTS `flashpizza` DEFAULT CHARACTER SET utf8 ;
USE `flashpizza` ;

-- -----------------------------------------------------
-- Table `flashpizza`.`ingredient`
-- -----------------------------------------------------
CREATE TABLE IF NOT EXISTS `flashpizza`.`ingredient` (
  `id` INT NOT NULL AUTO_INCREMENT,
  `name` VARCHAR(45) NOT NULL,
  PRIMARY KEY (`id`))
ENGINE = InnoDB
DEFAULT CHARACTER SET = utf8mb3;


-- -----------------------------------------------------
-- Table `flashpizza`.`state`
-- -----------------------------------------------------
CREATE TABLE IF NOT EXISTS `flashpizza`.`state` (
  `id` INT NOT NULL AUTO_INCREMENT,
  `name` VARCHAR(50) NOT NULL,
  PRIMARY KEY (`id`))
ENGINE = InnoDB
DEFAULT CHARACTER SET = utf8mb3;


-- -----------------------------------------------------
-- Table `flashpizza`.`vehicle_type`
-- -----------------------------------------------------
CREATE TABLE IF NOT EXISTS `flashpizza`.`vehicle_type` (
  `id` INT NOT NULL AUTO_INCREMENT,
  `name` VARCHAR(45) NOT NULL,
  PRIMARY KEY (`id`))
ENGINE = InnoDB
DEFAULT CHARACTER SET = utf8mb3;
```

```sql
-- -----------------------------------------------------
-- Table `flashpizza`.`vehicle`
-- -----------------------------------------------------
CREATE TABLE IF NOT EXISTS `flashpizza`.`vehicle` (
  `id` INT NOT NULL AUTO_INCREMENT,
  `state_id` INT NOT NULL DEFAULT 1,
  `type_id` INT NOT NULL,
  `matriculation` VARCHAR(45) NOT NULL,
  PRIMARY KEY (`id`),
  CONSTRAINT `fk_vehicle_state1`
    FOREIGN KEY (`state_id`)
    REFERENCES `flashpizza`.`state` (`id`),
  CONSTRAINT `fk_vehicle_vehicle_type1`
    FOREIGN KEY (`type_id`)
    REFERENCES `flashpizza`.`vehicle_type` (`id`))
ENGINE = InnoDB
DEFAULT CHARACTER SET = utf8mb3;

CREATE INDEX `fk_vehicle_state1_idx` ON `flashpizza`.`vehicle` (`state_id` ASC) VISIBLE;

CREATE INDEX `fk_vehicle_vehicle_type1_idx` ON `flashpizza`.`vehicle` (`type_id` ASC)
VISIBLE;


-- -----------------------------------------------------
-- Table `flashpizza`.`messenger`
-- -----------------------------------------------------
CREATE TABLE IF NOT EXISTS `flashpizza`.`messenger` (
  `id` INT NOT NULL AUTO_INCREMENT,
  `state_id` INT NOT NULL DEFAULT '1',
  `vehicle_id` INT NULL DEFAULT NULL,
  `name` VARCHAR(45) NULL DEFAULT NULL,
  `phone_number` VARCHAR(15) NOT NULL,
  PRIMARY KEY (`id`),
  CONSTRAINT `fk_messenger_state1`
    FOREIGN KEY (`state_id`)
    REFERENCES `flashpizza`.`state` (`id`),
  CONSTRAINT `fk_vehicle_id1`
    FOREIGN KEY (`vehicle_id`)
    REFERENCES `flashpizza`.`vehicle` (`id`)
    ON DELETE RESTRICT
    ON UPDATE RESTRICT)
ENGINE = InnoDB
DEFAULT CHARACTER SET = utf8mb3;

CREATE INDEX `fk_messenger_state1_idx` ON `flashpizza`.`messenger` (`state_id` ASC)
VISIBLE;

CREATE INDEX `fk_vehicle_id_idx` ON `flashpizza`.`messenger` (`vehicle_id` ASC) VISIBLE;


-- -----------------------------------------------------
-- Table `flashpizza`.`order_state`
-- -----------------------------------------------------
CREATE TABLE IF NOT EXISTS `flashpizza`.`order_state` (
  `id` INT NOT NULL AUTO_INCREMENT,
```

```
  `name` VARCHAR(45) NOT NULL,
  PRIMARY KEY (`id`))
ENGINE = InnoDB
DEFAULT CHARACTER SET = utf8mb3;


-- -----------------------------------------------------
-- Table `flashpizza`.`user`
-- -----------------------------------------------------
CREATE TABLE IF NOT EXISTS `flashpizza`.`user` (
  `id` INT NOT NULL AUTO_INCREMENT,
  `firstname` VARCHAR(16) NOT NULL,
  `lastname` VARCHAR(16) NULL,
  `phone_number` VARCHAR(15) NOT NULL,
  `email` VARCHAR(255) NULL DEFAULT NULL,
  `password` VARCHAR(32) NOT NULL,
  `create_time` TIMESTAMP NULL DEFAULT CURRENT_TIMESTAMP,
  `balance` DECIMAL(18,2) NOT NULL DEFAULT '0.00',
  PRIMARY KEY (`id`))
ENGINE = InnoDB
DEFAULT CHARACTER SET = utf8mb3;


-- -----------------------------------------------------
-- Table `flashpizza`.`order`
-- -----------------------------------------------------
CREATE TABLE IF NOT EXISTS `flashpizza`.`order` (
  `id` INT NOT NULL AUTO_INCREMENT,
  `user_id` INT NOT NULL,
  `state_id` INT NOT NULL DEFAULT '1',
  `messenger_id` INT NULL DEFAULT NULL,
  `vehicle_id` INT NULL DEFAULT NULL,
  `order_date` TIMESTAMP NOT NULL DEFAULT CURRENT_TIMESTAMP,
  `delivery_date` TIMESTAMP NULL DEFAULT NULL,
  `price` DECIMAL(5,2) NOT NULL DEFAULT '0.00',
  `late` TINYINT NULL DEFAULT 0,
  PRIMARY KEY (`id`),
  CONSTRAINT `fk_order_messenger1`
    FOREIGN KEY (`messenger_id`)
    REFERENCES `flashpizza`.`messenger` (`id`),
  CONSTRAINT `fk_order_order_state1`
    FOREIGN KEY (`state_id`)
    REFERENCES `flashpizza`.`order_state` (`id`),
  CONSTRAINT `fk_order_user`
    FOREIGN KEY (`user_id`)
    REFERENCES `flashpizza`.`user` (`id`),
  CONSTRAINT `fk_order_vehicle1`
    FOREIGN KEY (`vehicle_id`)
    REFERENCES `flashpizza`.`vehicle` (`id`)
    ON DELETE NO ACTION
    ON UPDATE NO ACTION)
ENGINE = InnoDB
DEFAULT CHARACTER SET = utf8mb3;

CREATE INDEX `fk_order_user_idx` ON `flashpizza`.`order` (`user_id` ASC) VISIBLE;
```

```
CREATE INDEX `fk_order_order_state1_idx` ON `flashpizza`.`order` (`state_id` ASC)
VISIBLE;

CREATE INDEX `fk_order_messenger1_idx` ON `flashpizza`.`order` (`messenger_id` ASC)
VISIBLE;

CREATE INDEX `fk_order_vehicle1_idx` ON `flashpizza`.`order` (`vehicle_id` ASC) VISIBLE;


-- -----------------------------------------------------
-- Table `flashpizza`.`pizza`
-- -----------------------------------------------------
CREATE TABLE IF NOT EXISTS `flashpizza`.`pizza` (
  `id` INT NOT NULL AUTO_INCREMENT,
  `name` VARCHAR(45) NOT NULL,
  `price` DECIMAL(4,2) NOT NULL,
  PRIMARY KEY (`id`))
ENGINE = InnoDB
DEFAULT CHARACTER SET = utf8mb3;


-- -----------------------------------------------------
-- Table `flashpizza`.`pizza_size`
-- -----------------------------------------------------
CREATE TABLE IF NOT EXISTS `flashpizza`.`pizza_size` (
  `id` INT NOT NULL AUTO_INCREMENT,
  `name` VARCHAR(45) NOT NULL,
  `coefficient` DECIMAL(3,2) NOT NULL DEFAULT '1.00',
  PRIMARY KEY (`id`))
ENGINE = InnoDB
DEFAULT CHARACTER SET = utf8mb3;


-- -----------------------------------------------------
-- Table `flashpizza`.`order_line`
-- -----------------------------------------------------
CREATE TABLE IF NOT EXISTS `flashpizza`.`order_line` (
  `id` INT NOT NULL AUTO_INCREMENT,
  `order_id` INT NOT NULL,
  `pizza_id` INT NOT NULL,
  `size_id` INT NOT NULL,
  `quantity` INT NOT NULL DEFAULT '1',
  `price` DECIMAL(5,2) NULL DEFAULT NULL,
  PRIMARY KEY (`id`),
  CONSTRAINT `fk_order_line_order1`
    FOREIGN KEY (`order_id`)
    REFERENCES `flashpizza`.`order` (`id`),
  CONSTRAINT `fk_order_line_pizza1`
    FOREIGN KEY (`pizza_id`)
    REFERENCES `flashpizza`.`pizza` (`id`),
  CONSTRAINT `fk_order_line_pizza_size1`
    FOREIGN KEY (`size_id`)
    REFERENCES `flashpizza`.`pizza_size` (`id`))
ENGINE = InnoDB
DEFAULT CHARACTER SET = utf8mb3;
```

```
CREATE INDEX `fk_order_line_order1_idx` ON `flashpizza`.`order_line` (`order_id` ASC)
VISIBLE;

CREATE INDEX `fk_order_line_pizza1_idx` ON `flashpizza`.`order_line` (`pizza_id` ASC)
VISIBLE;

CREATE INDEX `fk_order_line_pizza_size1_idx` ON `flashpizza`.`order_line` (`size_id`
ASC) VISIBLE;


-- -----------------------------------------------------
-- Table `flashpizza`.`pizza_ingredient`
-- -----------------------------------------------------
CREATE TABLE IF NOT EXISTS `flashpizza`.`pizza_ingredient` (
  `pizza_id` INT NOT NULL,
  `ingredient_id` INT NOT NULL,
  PRIMARY KEY (`pizza_id`, `ingredient_id`),
  CONSTRAINT `fk_pizza_ingredient_ingredient1`
    FOREIGN KEY (`ingredient_id`)
    REFERENCES `flashpizza`.`ingredient` (`id`),
  CONSTRAINT `fk_pizza_ingredient_pizza1`
    FOREIGN KEY (`pizza_id`)
    REFERENCES `flashpizza`.`pizza` (`id`))
ENGINE = InnoDB
DEFAULT CHARACTER SET = utf8mb3;

CREATE INDEX `fk_pizza_ingredient_pizza1_idx` ON `flashpizza`.`pizza_ingredient`
(`pizza_id` ASC) VISIBLE;

CREATE INDEX `fk_pizza_ingredient_ingredient1_idx` ON `flashpizza`.`pizza_ingredient`
(`ingredient_id` ASC) VISIBLE;


-- -----------------------------------------------------
-- Table `flashpizza`.`transaction`
-- -----------------------------------------------------
CREATE TABLE IF NOT EXISTS `flashpizza`.`transaction` (
  `id` INT NOT NULL AUTO_INCREMENT,
  `user_id` INT NOT NULL,
  `amount` DECIMAL(18,2) NOT NULL,
  PRIMARY KEY (`id`),
  CONSTRAINT `fk_transaction_user1`
    FOREIGN KEY (`user_id`)
    REFERENCES `flashpizza`.`user` (`id`)
    ON DELETE NO ACTION
    ON UPDATE NO ACTION)
ENGINE = InnoDB;

CREATE INDEX `fk_transaction_user1_idx` ON `flashpizza`.`transaction` (`user_id` ASC)
VISIBLE;

USE `flashpizza` ;

-- -----------------------------------------------------
-- Placeholder table for view `flashpizza`.`available_messenger`
-- -----------------------------------------------------
```

```
CREATE TABLE IF NOT EXISTS `flashpizza`.`available_messenger` (`Nom` INT, `Status` INT,
`Téléphone` INT, `Vehicule` INT, `Type vehicule` INT);

-- -----------------------------------------------------
-- Placeholder table for view `flashpizza`.`menu`
-- -----------------------------------------------------
CREATE TABLE IF NOT EXISTS `flashpizza`.`menu` (`id` INT, `Pizza` INT, `Ingredient` INT,
`Price` INT);

-- -----------------------------------------------------
-- Placeholder table for view `flashpizza`.`messenger_status`
-- -----------------------------------------------------
CREATE TABLE IF NOT EXISTS `flashpizza`.`messenger_status` (`Nom` INT, `Status` INT,
`Téléphone` INT, `Vehicule` INT, `Type vehicule` INT);

-- -----------------------------------------------------
-- Placeholder table for view `flashpizza`.`pizza_price`
-- -----------------------------------------------------
CREATE TABLE IF NOT EXISTS `flashpizza`.`pizza_price` (`pizza_id` INT, `Pizza` INT,
`size_id` INT, `Taille` INT, `Price` INT);

-- -----------------------------------------------------
-- Placeholder table for view `flashpizza`.`revenue`
-- -----------------------------------------------------
CREATE TABLE IF NOT EXISTS `flashpizza`.`revenue` (`"revenue"` INT);

-- -----------------------------------------------------
-- Placeholder table for view `flashpizza`.`customer_expanses`
-- -----------------------------------------------------
CREATE TABLE IF NOT EXISTS `flashpizza`.`customer_expanses` (`firstname` INT,
`"expanses"` INT);

-- -----------------------------------------------------
-- Placeholder table for view `flashpizza`.`best_customer`
-- -----------------------------------------------------
CREATE TABLE IF NOT EXISTS `flashpizza`.`best_customer` (`id` INT);

-- -----------------------------------------------------
-- Placeholder table for view `flashpizza`.`available_vehicle`
-- -----------------------------------------------------
CREATE TABLE IF NOT EXISTS `flashpizza`.`available_vehicle` (`matriculation` INT,
`"type"` INT, `"state"` INT);

-- -----------------------------------------------------
-- Placeholder table for view `flashpizza`.`total_pizza_order`
-- -----------------------------------------------------
CREATE TABLE IF NOT EXISTS `flashpizza`.`total_pizza_order` (`"Pizza"` INT, `"Total
commandé"` INT);

-- -----------------------------------------------------
-- Placeholder table for view `flashpizza`.`best_pizza`
-- -----------------------------------------------------
CREATE TABLE IF NOT EXISTS `flashpizza`.`best_pizza` (`id` INT);

-- -----------------------------------------------------
-- Placeholder table for view `flashpizza`.`worst_pizza`
```

```sql
-- -----------------------------------------------------
CREATE TABLE IF NOT EXISTS `flashpizza`.`worst_pizza` (`id` INT);

-- -----------------------------------------------------
-- View `flashpizza`.`available_messenger`
-- -----------------------------------------------------
DROP TABLE IF EXISTS `flashpizza`.`available_messenger`;
USE `flashpizza`;
CREATE  OR REPLACE ALGORITHM=UNDEFINED DEFINER=`root`@`localhost` SQL SECURITY DEFINER
VIEW `available_messenger`  AS SELECT `messenger_status`.`Nom` AS `Nom`,
`messenger_status`.`Status` AS `Status`, `messenger_status`.`Téléphone` AS `Téléphone`,
`messenger_status`.`Vehicule` AS `Vehicule`, `messenger_status`.`Type vehicule` AS `Type
vehicule` FROM `messenger_status` WHERE (`messenger_status`.`Status` = 'Disponible');

-- -----------------------------------------------------
-- View `flashpizza`.`menu`
-- -----------------------------------------------------
DROP TABLE IF EXISTS `flashpizza`.`menu`;
USE `flashpizza`;
CREATE  OR REPLACE ALGORITHM=UNDEFINED DEFINER=`root`@`localhost` SQL SECURITY DEFINER
VIEW `menu`  AS SELECT DISTINCT `p`.`id` AS `id`, `p`.`name` AS `Pizza`, `i`.`name` AS
`Ingredient`, `p`.`price` AS `Price` FROM ((`pizza` `p` join `pizza_ingredient` `pi`
on((`pi`.`pizza_id` = `p`.`id`))) join `ingredient` `i` on((`pi`.`ingredient_id` =
`i`.`id`)));

-- -----------------------------------------------------
-- View `flashpizza`.`messenger_status`
-- -----------------------------------------------------
DROP TABLE IF EXISTS `flashpizza`.`messenger_status`;
USE `flashpizza`;
CREATE  OR REPLACE ALGORITHM=UNDEFINED DEFINER=`root`@`localhost` SQL SECURITY DEFINER
VIEW `messenger_status`  AS SELECT `m`.`name` AS `Nom`, `s`.`Name` AS `Status`,
`m`.`phone_number` AS `Téléphone`, `v`.`matriculation` AS `Vehicule`, `vt`.`name` AS
`Type vehicule` FROM (((`messenger` `m` join `state` `s` on((`s`.`id` =
`m`.`state_id`))) left join `vehicle` `v` on((`v`.`id` = `m`.`vehicle_id`))) left join
`vehicle_type` `vt` on((`vt`.`id` = `v`.`type_id`)));

-- -----------------------------------------------------
-- View `flashpizza`.`pizza_price`
-- -----------------------------------------------------
DROP TABLE IF EXISTS `flashpizza`.`pizza_price`;
USE `flashpizza`;
CREATE  OR REPLACE ALGORITHM=UNDEFINED DEFINER=`root`@`localhost` SQL SECURITY DEFINER
VIEW `pizza_price`  AS SELECT `p`.`id` AS `pizza_id`, `p`.`name` AS `Pizza`, `s`.`id` AS
`size_id`, `s`.`name` AS `Taille`, (`s`.`coefficient` * `p`.`price`) AS `Price` FROM
(`pizza` `p` join `pizza_size` `s`) ORDER BY `p`.`id` ASC, (`s`.`coefficient` *
`p`.`price`) ASC;

-- -----------------------------------------------------
-- View `flashpizza`.`revenue`
-- -----------------------------------------------------
DROP TABLE IF EXISTS `flashpizza`.`revenue`;
USE `flashpizza`;
CREATE  OR REPLACE VIEW revenue as
              SELECT SUM(price) as "revenue"
              FROM `order`
```

```
              WHERE state_id > 0;

-- -----------------------------------------------------
-- View `flashpizza`.`customer_expanses`
-- -----------------------------------------------------
DROP TABLE IF EXISTS `flashpizza`.`customer_expanses`;
USE `flashpizza`;
CREATE  OR REPLACE VIEW customer_expanses as
              SELECT u.firstname, SUM(o.price) as "expanses"
              FROM `order` o
              JOIN user u on u.id = o.user_id
              GROUP BY user_id;

-- -----------------------------------------------------
-- View `flashpizza`.`best_customer`
-- -----------------------------------------------------
DROP TABLE IF EXISTS `flashpizza`.`best_customer`;
USE `flashpizza`;
CREATE  OR REPLACE VIEW best_customer as
              SELECT *
              FROM customer_expanses as c
              WHERE c.expanses = (SELECT Max(expanses) FROM customer_expanses);

-- -----------------------------------------------------
-- View `flashpizza`.`available_vehicle`
-- -----------------------------------------------------
DROP TABLE IF EXISTS `flashpizza`.`available_vehicle`;
USE `flashpizza`;
CREATE  OR REPLACE VIEW `available_vehicle` AS
select v.matriculation, t.Name "type", s.Name "state"
From vehicle v
JOIN state s on s.id = v.state_id
JOIN vehicle_type t on t.id = v.type_id
where state_id = 2;

-- -----------------------------------------------------
-- View `flashpizza`.`total_pizza_order`
-- -----------------------------------------------------
DROP TABLE IF EXISTS `flashpizza`.`total_pizza_order`;
USE `flashpizza`;
CREATE  OR REPLACE VIEW `total_pizza_order` AS
SELECT p.name "Pizza", SUM(ol.quantity) "Total commandé"
FROM flashpizza.order_line ol
JOIN flashpizza.pizza p on p.id = ol.pizza_id
GROUP BY p.id;

-- -----------------------------------------------------
-- View `flashpizza`.`best_pizza`
-- -----------------------------------------------------
DROP TABLE IF EXISTS `flashpizza`.`best_pizza`;
USE `flashpizza`;
CREATE  OR REPLACE VIEW `best_pizza` AS
SELECT *
FROM total_pizza_order
WHERE `total ordered` = (SELECT MAX(`total ordered`) from total_pizza_order);
```

```
-- -----------------------------------------------------
-- View `flashpizza`.`worst_pizza`
-- -----------------------------------------------------
DROP TABLE IF EXISTS `flashpizza`.`worst_pizza`;
USE `flashpizza`;
CREATE  OR REPLACE VIEW `worst_pizza` AS
SELECT *
FROM total_pizza_order
WHERE `total ordered` = (SELECT MIN(`total ordered`) from total_pizza_order);
USE `flashpizza`;

DELIMITER $$
USE `flashpizza`$$
CREATE DEFINER = CURRENT_USER TRIGGER `flashpizza`.`messenger_AFTER_UPDATE` AFTER UPDATE
ON `messenger` FOR EACH ROW
BEGIN
if not new.vehicle_id <=> old.vehicle_id
       then
              if new.vehicle_id is not NULL
                     then
                            update vehicle
                            set state_id = 1
                            where id = new.vehicle_id;
                     end if;

              if old.vehicle_id is not NULL
                     then
                            update vehicle
                            set state_id = 2
                            where id = old.vehicle_id;
                     end if;
       end if;
END$$

USE `flashpizza`$$
CREATE TRIGGER `before_update_order` BEFORE UPDATE ON `order` FOR EACH ROW BEGIN
if (SELECT user.balance FROM user WHERE user.id = NEW.user_id)< NEW.price AND
NEW.state_id = 2
    then
      SIGNAL sqlstate '45001' set message_text = "Not enough money";
    end if;

    if NEW.messenger_id is NULL AND NEW.state_id = 5 then
      SIGNAL sqlstate '45001' set message_text = "Assign messenger before delivery";
    end if;

       if NEW.messenger_id is not NULL then
              set NEW.vehicle_id = (SELECT m.vehicle_id FROM messenger m WHERE m.id =
NEW.messenger_id);
    end if;
END$$

USE `flashpizza`$$
CREATE TRIGGER `after_update_order` AFTER UPDATE ON `order` FOR EACH ROW BEGIN
if NEW.state_id = 2   THEN
       INSERT INTO `transaction` (user_id, amount) VALUES (NEW.user_id, -NEW.price);
```

```
    end if;

if NEW.state_id = 5   THEN
    UPDATE messenger set messenger.state_id = 1 WHERE messenger.id = NEW.messenger_id;
    end if;

if NEW.state_id = 6   THEN
    UPDATE messenger set messenger.state_id = 2 WHERE messenger.id = NEW.messenger_id;
    end if;
END$$

USE `flashpizza`$$
CREATE TRIGGER `before_insert_order_line` BEFORE INSERT ON `order_line` FOR EACH ROW SET
NEW.price =
(SELECT p.price from `pizza_price` as p
WHERE pizza_id = NEW.pizza_id AND size_id = NEW.size_id) * NEW.quantity$$

USE `flashpizza`$$
CREATE TRIGGER `after_insert_order_line` AFTER INSERT ON `order_line` FOR EACH ROW
UPDATE `order` as o
SET o.price = o.price + NEW.price
WHERE o.id = NEW.order_id$$

USE `flashpizza`$$
CREATE DEFINER = CURRENT_USER TRIGGER `flashpizza`.`transaction_AFTER_INSERT` AFTER
INSERT ON `transaction` FOR EACH ROW
BEGIN
       UPDATE `flashpizza`.`user`
    set balance = balance + NEW.amount
    WHERE id = NEW.user_id;
END$$


DELIMITER ;

SET SQL_MODE=@OLD_SQL_MODE;
SET FOREIGN_KEY_CHECKS=@OLD_FOREIGN_KEY_CHECKS;
SET UNIQUE_CHECKS=@OLD_UNIQUE_CHECKS;
```

D. Script d’insertion des données

```
SET @OLD_UNIQUE_CHECKS=@@UNIQUE_CHECKS, UNIQUE_CHECKS=0;
SET @OLD_FOREIGN_KEY_CHECKS=@@FOREIGN_KEY_CHECKS, FOREIGN_KEY_CHECKS=0;
SET @OLD_SQL_MODE=@@SQL_MODE,
SQL_MODE='ONLY_FULL_GROUP_BY,STRICT_TRANS_TABLES,NO_ZERO_IN_DATE,NO_ZERO_DATE,ERROR_FOR_
DIVISION_BY_ZERO,NO_ENGINE_SUBSTITUTION';

USE `flashpizza` ;

--
-- Déchargement des données de la table `ingredient`
--

INSERT INTO `ingredient` (`name`) VALUES
('Tomate'),
```

```sql
('Mozzarella'),
('Champignon'),
('Jambon'),
('Oignon'),
('Poivron'),
('Olive'),
('Roquette');

--
-- Déchargement des données de la table `state`
--

INSERT INTO `state` (`Name`) VALUES
('Non disponible'),
('Disponible');

--
-- Déchargement des données de la table `pizza_size`
--

INSERT INTO `pizza_size` (`name`, `coefficient`) VALUES
('Humaine', '1.00'),
('Naine', '0.75'),
('Ogresse', '1.25');

--
-- Déchargement des données de la table `user`
--

INSERT INTO `user` (`username`, `phone_number`, `email`, `password`, `create_time`,
`balance`) VALUES
('Antonin', '+33641941449', 'anto@gmail.com', 'pwd', '2022-06-10 12:43:08', '48.00');

--
-- Déchargement des données de la table `vehicle_type`
--

INSERT INTO `vehicle_type` (`name`) VALUES
('Car'),
('Motorcycle');

--
-- Déchargement des données de la table `pizza`
--

INSERT INTO `pizza` (`name`, `price`) VALUES
('Reine', '13.00'),
('Végétarienne', '15.00'),
('Regina', '10.00');

--
-- Déchargement des données de la table `pizza_ingredient`
--

INSERT INTO `pizza_ingredient` (`pizza_id`, `ingredient_id`) VALUES
(1, 1),
```

```
(1, 2),
(1, 3),
(1, 4),
(2, 1),
(2, 2),
(2, 3),
(2, 5),
(2, 6),
(3, 1),
(3, 2),
(3, 3),
(3, 4),
(3, 5),
(3, 7),
(3, 8);

--
-- Déchargement des données de la table `messenger`
--

INSERT INTO `messenger` (`state_id`, `vehicle_id`, `name`, `phone_number`) VALUES
(2, NULL, 'Boubakar', '+33655667788');

--
-- Déchargement des données de la table `order_state`
--

INSERT INTO `order_state` (`name`) VALUES
('Basket'),
('Ordered'),
('Cooking'),
('Ready'),
('Delivering'),
('Delivered');

--
-- Déchargement des données de la table `order`
--

INSERT INTO `order` (`user_id`, `state_id`, `messenger_id`, `order_date`,
`delivery_date`, `price`) VALUES
(1, 6, 1, '2022-06-13 07:23:57', NULL, '52.00');

--
-- Déchargement des données de la table `order_line`
--

INSERT INTO `order_line` (`order_id`, `pizza_id`, `size_id`, `quantity`, `price`) VALUES
(2, 1, 1, 4, '52.00');
```

II. Interrogation de la base de données

A. Menu

```
SELECT p.name as "Pizza", p.price as "Prix", i.name as "Ingredient"
FROM flashpizza.pizza p
JOIN flashpizza.pizza_ingredient pi on pi.pizza_id = p.id
JOIN flashpizza.ingredient i on i.id = pi.ingredient_id
```

B. Fiche de livraison

```
SELECT m.name as "Livreur", vt.name as "Type vehicule", u.username as "Nom
client", o.order_date as "Date de commande", p.name as "Pizza", ol.quantity as
"Quantité", ol.price as "Prix", o.price as "Prix total"
FROM flashpizza.order o
LEFT JOIN flashpizza.messenger m on m.id = o.messenger_id
LEFT JOIN flashpizza.user u on u.id = o.user_id
LEFT JOIN flashpizza.vehicle v on v.id = m.vehicle_id
LEFT JOIN flashpizza.vehicle_type vt on vt.id = v.type_id
LEFT JOIN flashpizza.order_line ol on ol.order_id = o.id
LEFT JOIN flashpizza.pizza p on p.id = ol.pizza_id
```

C. Question diverses

- Quels sont les véhicules n'ayant jamais servi ?

- Calcul du nombre de commandes par client ?

```
SELECT u.username as "Nom client", COUNT(*) as "Nombre de commandes",
SUM(o.price) as "Total dépensé"
FROM flashpizza.order o
JOIN flashpizza.user u on u.id = o.user_id
GROUP BY o.user_id;
```

- Calcul de la moyenne des commandes ?

```
SELECT AVG(o.price) as "Moyenne des commandes"
FROM flashpizza.order o
```

- Extraction des clients ayant commandé plus que la moyenne ?

```
SELECT u.username as "Nom client", COUNT(*) as "Nombre de commandes",
SUM(o.price) as "Total dépensé"
FROM flashpizza.order o
JOIN flashpizza.user u on u.id = o.user_id
GROUP BY o.user_id
HAVING SUM(o.price) >
(SELECT AVG(o.price) as "Moyenne des commandes"
FROM flashpizza.order o);
```