MAJOR ASSIGNMENT – DATA MODEL

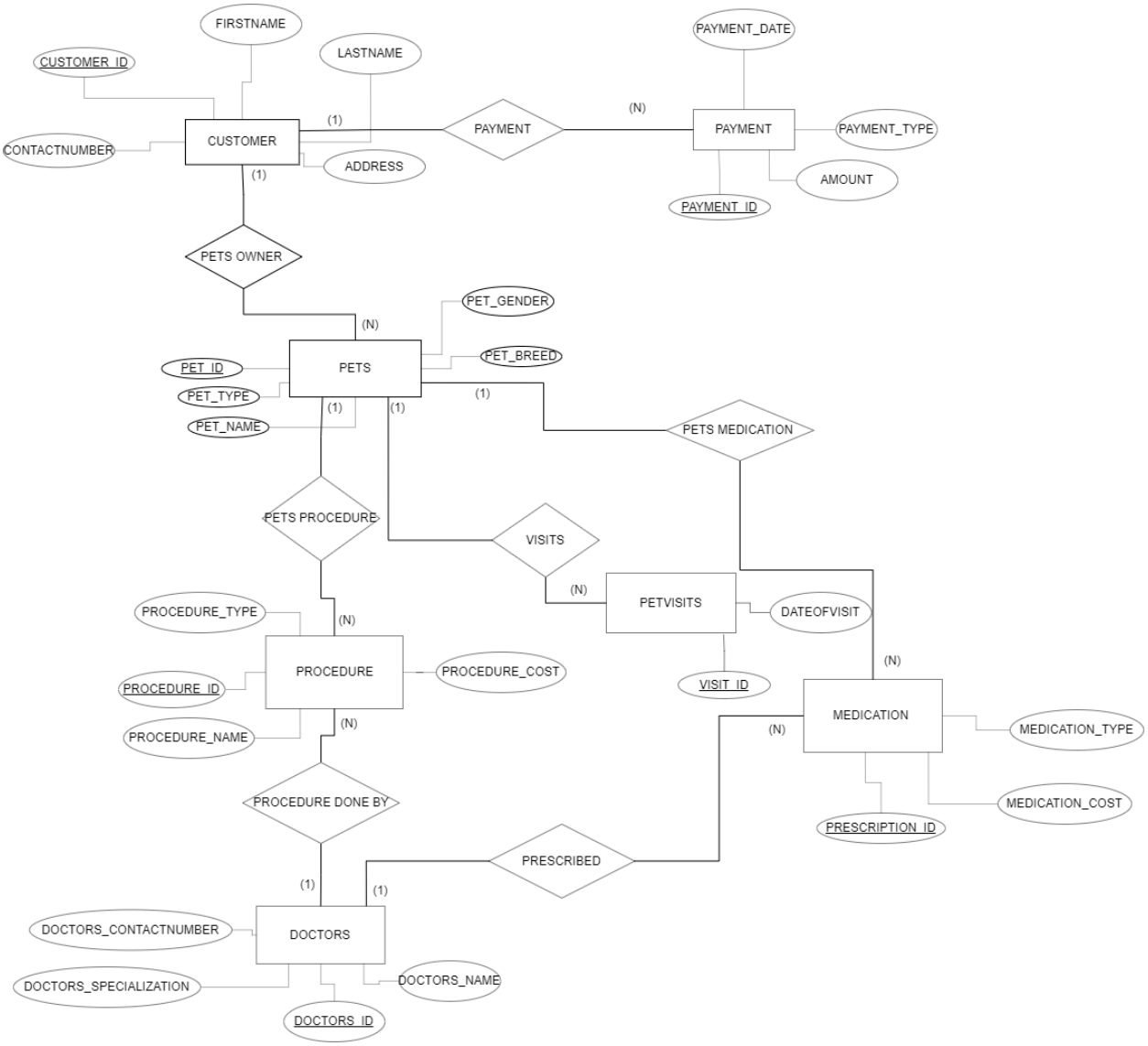
PROBLEM DESCRIPTION:

Due to the growing number of customers, employees and doctors at pet clinics, The pet clinic want to track and record customer's details, pet details, pet visits to the hospital, customers payment, pet procedure's, doctors details and medication. So, the pet clinic's requirement is to design a data model for all the entities involved.

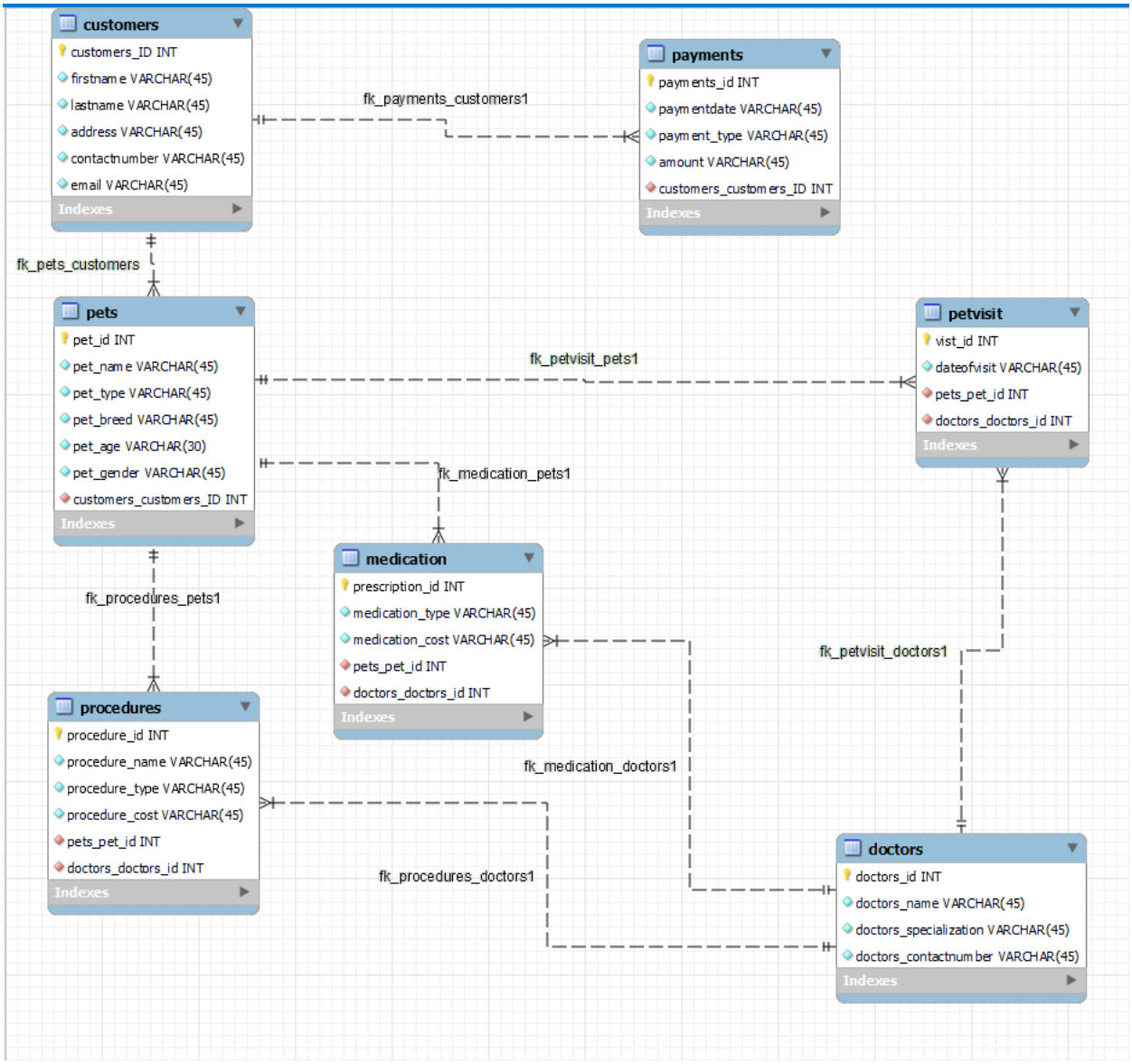
BUSINESS RULES AND ASSUPTIONS:

- Each customer who comes to the clinic will have a unique customer id.
- Customer's first name, last name, address, contact number and email are all stored in the database.
- Each pet which comes to the clinic has a unique id called a pet id.
- The pet's name, breed, age and gender are stored in the database.
- A customer can have one or many pets.
- Every time the pet visits the clinic it will be stored with a unique id called visit id and the date of visit is also stored in the database.
- Every transaction made by the customer will be stored as a payment id.
- The payment date, payment type and the amount will be stored in the database.
- Every procedure for a pet has a unique procedure id.
- The procedure name, type and cost are stored in the database.
- Every procedure has a doctor.
- Doctors in the clinic have a unique doctor id.
- Doctors information such as doctors name, specialization and contact number will be saved in the database.
- A doctor can have many procedures on a pet id.
- A customer can have many payments, but a payment belongs to only one customer.
- Every prescription prescribed by the doctor has a unique prescription id.
- The medication of the pet such as medication type, cost will be recorded in the database.
- A doctor can prescribe many prescriptions, but one prescription belongs to only one pet.
- A pet can have many procedures, but a procedure belongs to only a pet.
- A doctor can be involved in many procedures, but a procedure belongs to only one doctor.

CONCEPTUAL DESIGN AS PER CHEN'S MODEL:



LOGICAL MODEL – ERD DIAGRAM



PHYSICAL MODEL SCRIPT DEVELOPED FOR MYSQL

```
-- 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,ERRO
R_FOR_DIVISION_BY_ZERO,NO_ENGINE_SUBSTITUTION';


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

-- Schema mydb

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


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

-- Schema mydb

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

CREATE SCHEMA IF NOT EXISTS `mydb` DEFAULT CHARACTER SET utf8 ;

USE `mydb` ;


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

-- Table `mydb`.`customers`

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

CREATE TABLE IF NOT EXISTS `mydb`.`customers` (

  `customers_ID` INT NOT NULL,

  `firstname` VARCHAR(45) NOT NULL,

  `lastname` VARCHAR(45) NOT NULL,

  `address` VARCHAR(45) NOT NULL,

  `contactnumber` VARCHAR(45) NOT NULL,
```

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  `email` VARCHAR(45) NOT NULL,
  PRIMARY KEY (`customers_ID`))
ENGINE = InnoDB;


-- -----------------------------------------------------
-- Table `mydb`.`pets`
-- -----------------------------------------------------
CREATE TABLE IF NOT EXISTS `mydb`.`pets` (
  `pet_id` INT NOT NULL,
  `pet_name` VARCHAR(45) NOT NULL,
  `pet_type` VARCHAR(45) NOT NULL,
  `pet_breed` VARCHAR(45) NOT NULL,
  `pet_age` VARCHAR(30) NOT NULL,
  `pet_gender` VARCHAR(45) NOT NULL,
  `customers_customers_ID` INT NOT NULL,
  PRIMARY KEY (`pet_id`),
  INDEX `fk_pets_customers_idx` (`customers_customers_ID` ASC) VISIBLE,
  CONSTRAINT `fk_pets_customers`
    FOREIGN KEY (`customers_customers_ID`)
    REFERENCES `mydb`.`customers` (`customers_ID`)
    ON DELETE NO ACTION
    ON UPDATE NO ACTION)
ENGINE = InnoDB;


-- -----------------------------------------------------
-- Table `mydb`.`doctors`
-- -----------------------------------------------------
```

```
CREATE TABLE IF NOT EXISTS `mydb`.`doctors` (
  `doctors_id` INT NOT NULL,
  `doctors_name` VARCHAR(45) NOT NULL,
  `doctors_specialization` VARCHAR(45) NOT NULL,
  `doctors_contactnumber` VARCHAR(45) NOT NULL,
  PRIMARY KEY (`doctors_id`))
ENGINE = InnoDB;



-- -----------------------------------------------------
-- Table `mydb`.`petvisit`
-- -----------------------------------------------------
CREATE TABLE IF NOT EXISTS `mydb`.`petvisit` (
  `vist_id` INT NOT NULL,
  `dateofvisit` VARCHAR(45) NOT NULL,
  `pets_pet_id` INT NOT NULL,
  `doctors_doctors_id` INT NOT NULL,
  PRIMARY KEY (`vist_id`),
  INDEX `fk_petvisit_pets1_idx` (`pets_pet_id` ASC) VISIBLE,
  INDEX `fk_petvisit_doctors1_idx` (`doctors_doctors_id` ASC) VISIBLE,
  CONSTRAINT `fk_petvisit_pets1`
    FOREIGN KEY (`pets_pet_id`)
    REFERENCES `mydb`.`pets` (`pet_id`)
    ON DELETE NO ACTION
    ON UPDATE NO ACTION,
  CONSTRAINT `fk_petvisit_doctors1`
    FOREIGN KEY (`doctors_doctors_id`)
    REFERENCES `mydb`.`doctors` (`doctors_id`)
    ON DELETE NO ACTION
```

```
    ON UPDATE NO ACTION)
ENGINE = InnoDB;



-- -----------------------------------------------------
-- Table `mydb`.`payments`
-- -----------------------------------------------------
CREATE TABLE IF NOT EXISTS `mydb`.`payments` (
  `payments_id` INT NOT NULL,
  `paymentdate` VARCHAR(45) NOT NULL,
  `payment_type` VARCHAR(45) NOT NULL,
  `amount` VARCHAR(45) NOT NULL,
  `customers_customers_ID` INT NOT NULL,
  PRIMARY KEY (`payments_id`),
  INDEX `fk_payments_customers1_idx` (`customers_customers_ID` ASC) VISIBLE,
  CONSTRAINT `fk_payments_customers1`
    FOREIGN KEY (`customers_customers_ID`)
    REFERENCES `mydb`.`customers` (`customers_ID`)
    ON DELETE NO ACTION
    ON UPDATE NO ACTION)
ENGINE = InnoDB;



-- -----------------------------------------------------
-- Table `mydb`.`procedures`
-- -----------------------------------------------------
CREATE TABLE IF NOT EXISTS `mydb`.`procedures` (
  `procedure_id` INT NOT NULL,
  `procedure_name` VARCHAR(45) NOT NULL,
```

```
  `procedure_type` VARCHAR(45) NOT NULL,
  `procedure_cost` VARCHAR(45) NOT NULL,
  `pets_pet_id` INT NOT NULL,
  `doctors_doctors_id` INT NOT NULL,
  PRIMARY KEY (`procedure_id`),
  INDEX `fk_procedures_pets1_idx` (`pets_pet_id` ASC) VISIBLE,
  INDEX `fk_procedures_doctors1_idx` (`doctors_doctors_id` ASC) VISIBLE,
  CONSTRAINT `fk_procedures_pets1`
    FOREIGN KEY (`pets_pet_id`)
    REFERENCES `mydb`.`pets` (`pet_id`)
    ON DELETE NO ACTION
    ON UPDATE NO ACTION,
  CONSTRAINT `fk_procedures_doctors1`
    FOREIGN KEY (`doctors_doctors_id`)
    REFERENCES `mydb`.`doctors` (`doctors_id`)
    ON DELETE NO ACTION
    ON UPDATE NO ACTION)
ENGINE = InnoDB;


-- -----------------------------------------------------
-- Table `mydb`.`medication`
-- -----------------------------------------------------
CREATE TABLE IF NOT EXISTS `mydb`.`medication` (
  `prescription_id` INT NOT NULL,
  `medication_type` VARCHAR(45) NOT NULL,
  `medication_cost` VARCHAR(45) NOT NULL,
  `pets_pet_id` INT NOT NULL,
  `doctors_doctors_id` INT NOT NULL,
```

```
  PRIMARY KEY (`prescription_id`),
  INDEX `fk_medication_pets1_idx` (`pets_pet_id` ASC) VISIBLE,
  INDEX `fk_medication_doctors1_idx` (`doctors_doctors_id` ASC) VISIBLE,
  CONSTRAINT `fk_medication_pets1`
    FOREIGN KEY (`pets_pet_id`)
    REFERENCES `mydb`.`pets` (`pet_id`)
    ON DELETE NO ACTION
    ON UPDATE NO ACTION,
  CONSTRAINT `fk_medication_doctors1`
    FOREIGN KEY (`doctors_doctors_id`)
    REFERENCES `mydb`.`doctors` (`doctors_id`)
    ON DELETE NO ACTION
    ON UPDATE NO ACTION)
ENGINE = InnoDB;


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