**Report 2 : MySQL 모델링** – 20175288 최광삼



1. relation scheme

1.1 Entity relations :

**AIRPORT** (Airport\_code, City, State, Name)

**AIRPLANE\_TYPE** (Type\_name, Max\_seats, Company)

**AIRPLANE** (Airplane\_id, Total\_no\_of\_seats, Type\_name\* NN)

**FLIGHT** (Number, Airline, Weekdays)

1.2 Entity relations (existential dependency) :

**FARE** (Flight\_Number\*, Code, Amount, Restrictions)

**FLIGHT\_LEG** (Flight\_Number\*, Leg\_no, DEP\_Airport\_code\* NN, ARR\_Airport\_code\* NN, Scheduled\_dep\_time, Scheduled\_arr\_time)

**LEG\_INSTANCE** (Flight\_Number\*, Leg\_no\*, Date, No\_of\_avail\_seats, Airplane\_id\* NN, DEP\_Airport\_code\*, ARR\_Airport\_code\*, Dep\_time, Arr\_time)

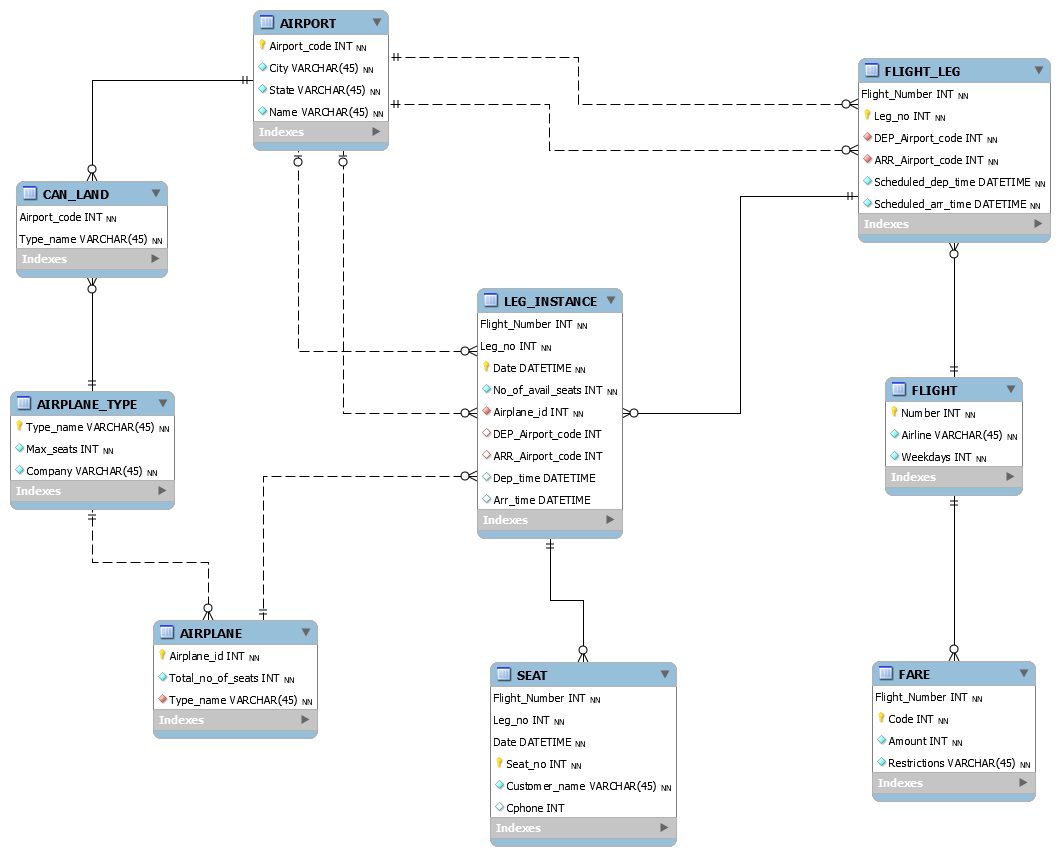
**SEAT** (Flight\_Number\*, Leg\_no\*, Date\*, Seat\_no, Customer\_name, Cphone)

1.3 Relationship relations :

**CAN\_LAND** (Airport\_code\*, Type\_name\*)

1.4 Attribute relations (multi valued) : 없음

2. EER 다이어그램



3. DDL script

-- MySQL Script generated by MySQL Workbench

-- Thu Apr 23 22:51:29 2020

-- 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';

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-- Schema AIRLINE\_RESERVATION

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CREATE SCHEMA IF NOT EXISTS `AIRLINE\_RESERVATION` DEFAULT CHARACTER SET utf8 ;

USE `AIRLINE\_RESERVATION` ;

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

-- Table `AIRLINE\_RESERVATION`.`AIRPORT`

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

CREATE TABLE IF NOT EXISTS `AIRLINE\_RESERVATION`.`AIRPORT` (

`Airport\_code` INT NOT NULL,

`City` VARCHAR(45) NOT NULL,

`State` VARCHAR(45) NOT NULL,

`Name` VARCHAR(45) NOT NULL,

PRIMARY KEY (`Airport\_code`))

ENGINE = InnoDB;

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

-- Table `AIRLINE\_RESERVATION`.`FLIGHT`

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

CREATE TABLE IF NOT EXISTS `AIRLINE\_RESERVATION`.`FLIGHT` (

`Number` INT NOT NULL,

`Airline` VARCHAR(45) NOT NULL,

`Weekdays` INT NOT NULL,

PRIMARY KEY (`Number`))

ENGINE = InnoDB;

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

-- Table `AIRLINE\_RESERVATION`.`FLIGHT\_LEG`

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

CREATE TABLE IF NOT EXISTS `AIRLINE\_RESERVATION`.`FLIGHT\_LEG` (

`Flight\_Number` INT NOT NULL,

`Leg\_no` INT NOT NULL,

`DEP\_Airport\_code` INT NOT NULL,

`ARR\_Airport\_code` INT NOT NULL,

`Scheduled\_dep\_time` DATETIME NOT NULL,

`Scheduled\_arr\_time` DATETIME NOT NULL,

PRIMARY KEY (`Flight\_Number`, `Leg\_no`),

INDEX `FK\_FLIGHT\_FLIGHT\_LEG` (`Flight\_Number` ASC) VISIBLE,

INDEX `FK\_DEPARTURE\_FLIGHT` (`DEP\_Airport\_code` ASC) VISIBLE,

INDEX `FK\_ARRIVAL\_FLIGHT` (`ARR\_Airport\_code` ASC) VISIBLE,

CONSTRAINT `FK\_FLIGHT\_FLIGHT\_LEG`

FOREIGN KEY (`Flight\_Number`)

REFERENCES `AIRLINE\_RESERVATION`.`FLIGHT` (`Number`)

ON DELETE NO ACTION

ON UPDATE NO ACTION,

CONSTRAINT `FK\_DEPARTURE\_FLIGHT`

FOREIGN KEY (`DEP\_Airport\_code`)

REFERENCES `AIRLINE\_RESERVATION`.`AIRPORT` (`Airport\_code`)

ON DELETE NO ACTION

ON UPDATE NO ACTION,

CONSTRAINT `FK\_ARRIVAL\_FLIGHT`

FOREIGN KEY (`ARR\_Airport\_code`)

REFERENCES `AIRLINE\_RESERVATION`.`AIRPORT` (`Airport\_code`)

ON DELETE NO ACTION

ON UPDATE NO ACTION)

ENGINE = InnoDB;

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

-- Table `AIRLINE\_RESERVATION`.`AIRPLANE\_TYPE`

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

CREATE TABLE IF NOT EXISTS `AIRLINE\_RESERVATION`.`AIRPLANE\_TYPE` (

`Type\_name` VARCHAR(45) NOT NULL,

`Max\_seats` INT NOT NULL,

`Company` VARCHAR(45) NOT NULL,

PRIMARY KEY (`Type\_name`))

ENGINE = InnoDB;

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

-- Table `AIRLINE\_RESERVATION`.`AIRPLANE`

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

CREATE TABLE IF NOT EXISTS `AIRLINE\_RESERVATION`.`AIRPLANE` (

`Airplane\_id` INT NOT NULL,

`Total\_no\_of\_seats` INT NOT NULL,

`Type\_name` VARCHAR(45) NOT NULL,

PRIMARY KEY (`Airplane\_id`),

INDEX `FK\_TYPE\_AIRPLANE` (`Type\_name` ASC) VISIBLE,

CONSTRAINT `FK\_TYPE\_AIRPLANE`

FOREIGN KEY (`Type\_name`)

REFERENCES `AIRLINE\_RESERVATION`.`AIRPLANE\_TYPE` (`Type\_name`)

ON DELETE NO ACTION

ON UPDATE NO ACTION)

ENGINE = InnoDB;

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

-- Table `AIRLINE\_RESERVATION`.`FARE`

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

CREATE TABLE IF NOT EXISTS `AIRLINE\_RESERVATION`.`FARE` (

`Flight\_Number` INT NOT NULL,

`Code` INT NOT NULL,

`Amount` INT NOT NULL,

`Restrictions` VARCHAR(45) NOT NULL,

PRIMARY KEY (`Flight\_Number`, `Code`),

INDEX `FK\_FLIGHT\_FARE` (`Flight\_Number` ASC) VISIBLE,

CONSTRAINT `FK\_FLIGHT\_FARE`

FOREIGN KEY (`Flight\_Number`)

REFERENCES `AIRLINE\_RESERVATION`.`FLIGHT` (`Number`)

ON DELETE NO ACTION

ON UPDATE NO ACTION)

ENGINE = InnoDB;

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

-- Table `AIRLINE\_RESERVATION`.`CAN\_LAND`

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

CREATE TABLE IF NOT EXISTS `AIRLINE\_RESERVATION`.`CAN\_LAND` (

`Airport\_code` INT NOT NULL,

`Type\_name` VARCHAR(45) NOT NULL,

PRIMARY KEY (`Airport\_code`, `Type\_name`),

INDEX `FK\_CAN\_LAND\_AIRPLANE\_TYPE` (`Type\_name` ASC) VISIBLE,

CONSTRAINT `FK\_CAN\_LAND\_AIRPORT`

FOREIGN KEY (`Airport\_code`)

REFERENCES `AIRLINE\_RESERVATION`.`AIRPORT` (`Airport\_code`)

ON DELETE NO ACTION

ON UPDATE NO ACTION,

CONSTRAINT `FK\_CAN\_LAND\_AIRPLANE\_TYPE`

FOREIGN KEY (`Type\_name`)

REFERENCES `AIRLINE\_RESERVATION`.`AIRPLANE\_TYPE` (`Type\_name`)

ON DELETE NO ACTION

ON UPDATE NO ACTION)

ENGINE = InnoDB;

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

-- Table `AIRLINE\_RESERVATION`.`LEG\_INSTANCE`

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

CREATE TABLE IF NOT EXISTS `AIRLINE\_RESERVATION`.`LEG\_INSTANCE` (

`Flight\_Number` INT NOT NULL,

`Leg\_no` INT NOT NULL,

`Date` DATETIME NOT NULL,

`No\_of\_avail\_seats` INT NOT NULL,

`Airplane\_id` INT NOT NULL,

`DEP\_Airport\_code` INT NULL,

`ARR\_Airport\_code` INT NULL,

`Dep\_time` DATETIME NULL,

`Arr\_time` DATETIME NULL,

PRIMARY KEY (`Flight\_Number`, `Leg\_no`, `Date`),

INDEX `FK\_DEPARTS\_INSTANCE` (`DEP\_Airport\_code` ASC) VISIBLE,

INDEX `FK\_ARRIVES\_INSTANCE` (`ARR\_Airport\_code` ASC) VISIBLE,

INDEX `FK\_FLIGHT\_LEG\_INSTANCE` (`Flight\_Number` ASC, `Leg\_no` ASC) INVISIBLE,

INDEX `FK\_ASSIGNED\_INSTANCE` (`Airplane\_id` ASC) VISIBLE,

CONSTRAINT `FK\_DEPARTS\_INSTANCE`

FOREIGN KEY (`DEP\_Airport\_code`)

REFERENCES `AIRLINE\_RESERVATION`.`AIRPORT` (`Airport\_code`)

ON DELETE NO ACTION

ON UPDATE NO ACTION,

CONSTRAINT `FK\_ARRIVES\_INSTANCE`

FOREIGN KEY (`ARR\_Airport\_code`)

REFERENCES `AIRLINE\_RESERVATION`.`AIRPORT` (`Airport\_code`)

ON DELETE NO ACTION

ON UPDATE NO ACTION,

CONSTRAINT `FK\_FLIGHT\_LEG\_INSTANCE`

FOREIGN KEY (`Flight\_Number` , `Leg\_no`)

REFERENCES `AIRLINE\_RESERVATION`.`FLIGHT\_LEG` (`Flight\_Number` , `Leg\_no`)

ON DELETE NO ACTION

ON UPDATE NO ACTION,

CONSTRAINT `FK\_ASSIGNED\_INSTANCE`

FOREIGN KEY (`Airplane\_id`)

REFERENCES `AIRLINE\_RESERVATION`.`AIRPLANE` (`Airplane\_id`)

ON DELETE NO ACTION

ON UPDATE NO ACTION)

ENGINE = InnoDB;

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

-- Table `AIRLINE\_RESERVATION`.`SEAT`

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

CREATE TABLE IF NOT EXISTS `AIRLINE\_RESERVATION`.`SEAT` (

`Flight\_Number` INT NOT NULL,

`Leg\_no` INT NOT NULL,

`Date` DATETIME NOT NULL,

`Seat\_no` INT NOT NULL,

`Customer\_name` VARCHAR(45) NOT NULL,

`Cphone` INT NULL,

PRIMARY KEY (`Flight\_Number`, `Leg\_no`, `Date`, `Seat\_no`),

INDEX `FK\_RESERVATION\_SEAT` (`Flight\_Number` ASC, `Leg\_no` ASC, `Date` ASC) INVISIBLE,

CONSTRAINT `FK\_RESERVATION\_SEAT`

FOREIGN KEY (`Flight\_Number` , `Leg\_no` , `Date`)

REFERENCES `AIRLINE\_RESERVATION`.`LEG\_INSTANCE` (`Flight\_Number` , `Leg\_no` , `Date`)

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;

4. SqlDBM 다이어그램

