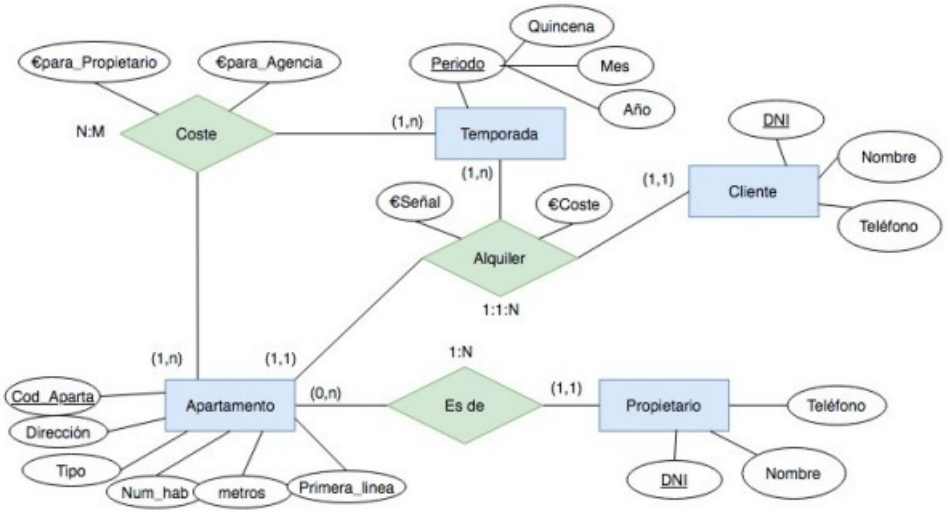
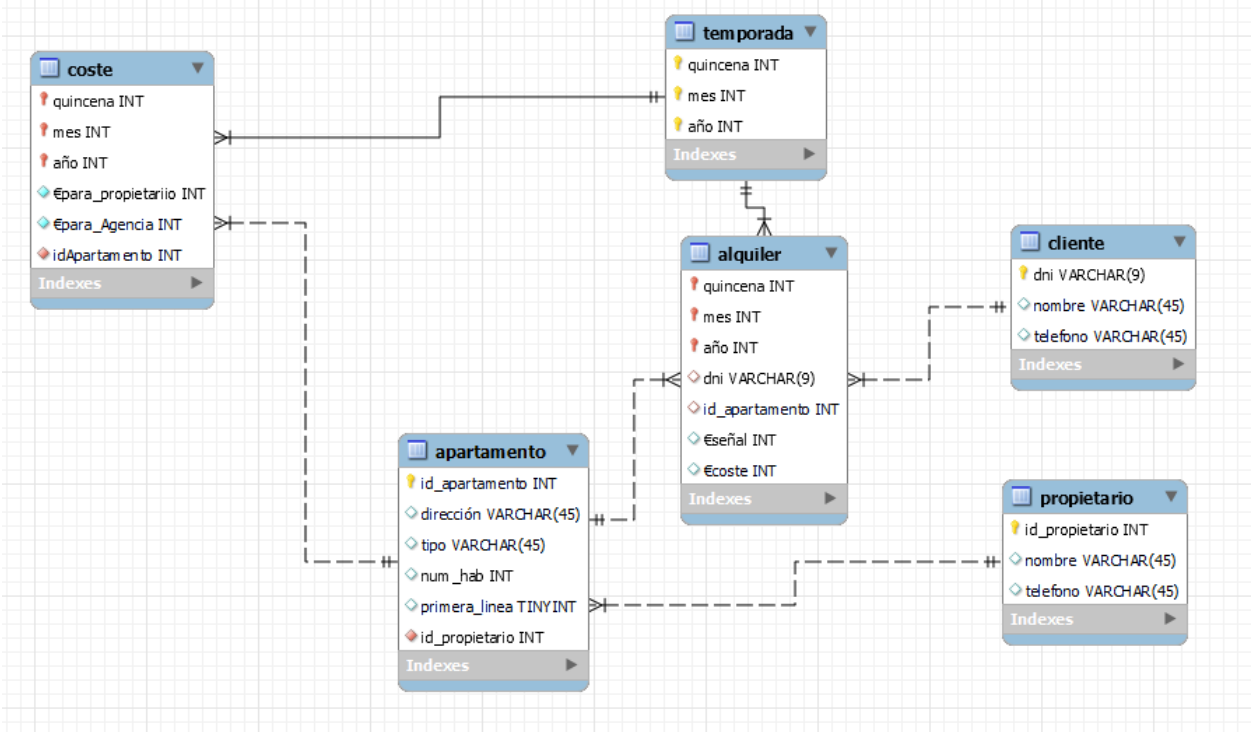
salesianos COLEGIO SAN JUAN BOSCO LA CUESTA	***Bases de datos***	EDUQATIA ISO 9001 ACREDITADO POR ENAC	**1º DAM**
	Tema 4 – Modelo Relacional		**Práctica**
			Nº2
NOMBRE: Alonso Marrero Bello			

Tarea 1: (3 puntos)

Dado el esquema E/R de la figura correspondiente a la base de datos de una agencia de alquiler de apartamentos en la playa para vacaciones. Se pide transformarlo al modelo relacional mediante la herramienta MySQL Workbench.





salesianos COLEGIO SAN JUAN BOSCO LA CUESTA	***Bases de datos***	EDUQATIA ISO 9001 ACREDITADO POR ENAC	**1º DAM**
	Tema 4 – Modelo Relacional		**Práctica**
			Nº2
NOMBRE: Alonso Marrero Bello			

```
-- 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 T4P2.1
-- -----------------------------------------------------

-- -----------------------------------------------------
-- Schema T4P2.1
-- -----------------------------------------------------
CREATE SCHEMA IF NOT EXISTS `T4P2.1` DEFAULT CHARACTER SET utf8 ;
USE `T4P2.1` ;

-- -----------------------------------------------------
-- Table `T4P2.1`.`cliente`
-- -----------------------------------------------------
CREATE TABLE IF NOT EXISTS `T4P2.1`.`cliente` (
  `dni` VARCHAR(9) NOT NULL,
  `nombre` VARCHAR(45) NULL,
  `telefono` VARCHAR(45) NULL,
  PRIMARY KEY (`dni`))
ENGINE = InnoDB;


-- -----------------------------------------------------
-- Table `T4P2.1`.`propietario`
-- -----------------------------------------------------
CREATE TABLE IF NOT EXISTS `T4P2.1`.`propietario` (
  `id_propietario` INT NOT NULL AUTO_INCREMENT,
  `nombre` VARCHAR(45) NULL,
  `telefono` VARCHAR(45) NULL,
  PRIMARY KEY (`id_propietario`))
ENGINE = InnoDB;


-- -----------------------------------------------------
-- Table `T4P2.1`.`apartamento`
-- -----------------------------------------------------
CREATE TABLE IF NOT EXISTS `T4P2.1`.`apartamento` (
  `id_apartamento` INT NOT NULL AUTO_INCREMENT,
  `dirección` VARCHAR(45) NULL,
```

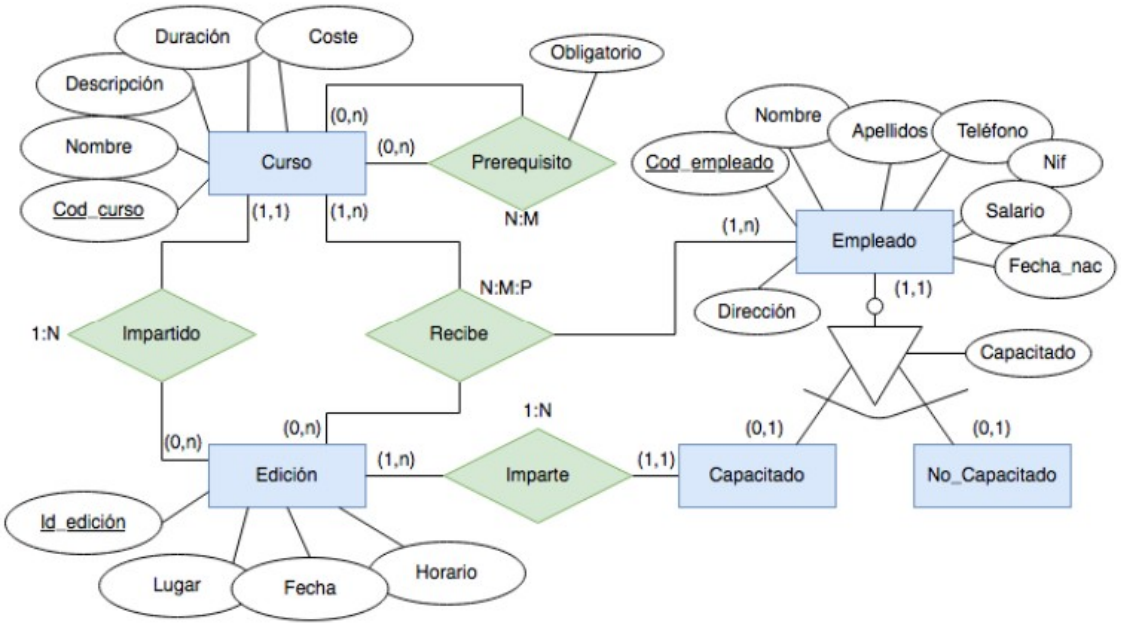
```
  `tipo` VARCHAR(45) NULL,
  `num_hab` INT NULL,
  `primera_linea` TINYINT NULL,
  `id_propietario` INT NOT NULL,
  PRIMARY KEY (`id_apartamento`),
  INDEX `id_propietario` (`id_propietario` ASC) VISIBLE,
  CONSTRAINT `propietarioApartamento`
    FOREIGN KEY (`id_propietario`)
    REFERENCES `T4P2.1`.`propietario` (`id_propietario`)
    ON DELETE RESTRICT
    ON UPDATE CASCADE)
ENGINE = InnoDB;


-- -----------------------------------------------------
-- Table `T4P2.1`.`temporada`
-- -----------------------------------------------------
CREATE TABLE IF NOT EXISTS `T4P2.1`.`temporada` (
  `quincena` INT NOT NULL,
  `mes` INT NOT NULL,
  `año` INT NOT NULL,
  PRIMARY KEY (`quincena`, `mes`, `año`))
ENGINE = InnoDB;


-- -----------------------------------------------------
-- Table `T4P2.1`.`coste`
-- -----------------------------------------------------
CREATE TABLE IF NOT EXISTS `T4P2.1`.`coste` (
  `quincena` INT NOT NULL,
  `mes` INT NOT NULL,
  `año` INT NOT NULL,
  `€para_propietariio` INT NOT NULL,
  `€para_Agencia` INT NOT NULL,
  `idApartamento` INT NOT NULL,
  PRIMARY KEY (`quincena`, `mes`, `año`),
  INDEX `quincena` (`quincena` ASC) INVISIBLE,
  INDEX `mes` (`mes` ASC) INVISIBLE,
  INDEX `año` (`año` ASC) INVISIBLE,
  INDEX `id_apartamento` (`idApartamento` ASC) VISIBLE,
  CONSTRAINT `costeTemporada`
    FOREIGN KEY (`quincena` , `mes` , `año`)
    REFERENCES `T4P2.1`.`temporada` (`quincena` , `mes` , `año`)
    ON DELETE RESTRICT
    ON UPDATE CASCADE,
  CONSTRAINT `costeApartamento`
    FOREIGN KEY (`idApartamento`)
```

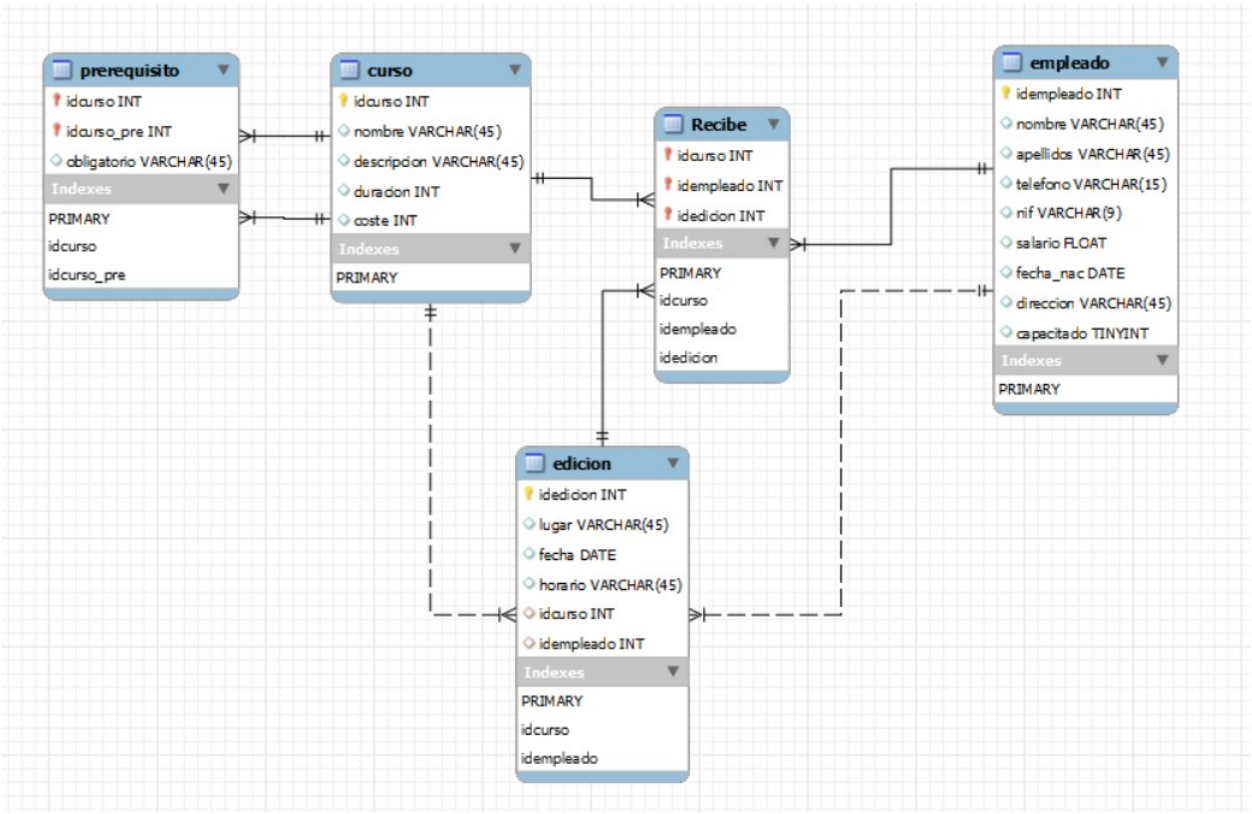
```
    REFERENCES `T4P2.1`.`apartamento` (`id_apartamento`)
    ON DELETE RESTRICT
    ON UPDATE CASCADE)
ENGINE = InnoDB;


-- -----------------------------------------------------
-- Table `T4P2.1`.`alquiler`
-- -----------------------------------------------------
CREATE TABLE IF NOT EXISTS `T4P2.1`.`alquiler` (
  `quincena` INT NOT NULL,
  `mes` INT NOT NULL,
  `año` INT NOT NULL,
  `dni` VARCHAR(9) NULL,
  `id_apartamento` INT NULL,
  `€señal` INT NULL,
  `€coste` INT NULL,
  PRIMARY KEY (`quincena`, `mes`, `año`),
  INDEX `quincena` (`quincena` ASC) INVISIBLE,
  INDEX `mes` (`mes` ASC) INVISIBLE,
  INDEX `año` (`año` ASC) INVISIBLE,
  INDEX `dni` (`dni` ASC) INVISIBLE,
  INDEX `id_apartamento` (`id_apartamento` ASC) VISIBLE,
  CONSTRAINT `alquilerTemporada`
    FOREIGN KEY (`quincena` , `mes` , `año`)
    REFERENCES `T4P2.1`.`temporada` (`quincena` , `mes` , `año`)
    ON DELETE RESTRICT
    ON UPDATE CASCADE,
  CONSTRAINT `alquilerCliente`
    FOREIGN KEY (`dni`)
    REFERENCES `T4P2.1`.`cliente` (`dni`)
    ON DELETE RESTRICT
    ON UPDATE CASCADE,
  CONSTRAINT `alquilerApartamento`
    FOREIGN KEY (`id_apartamento`)
    REFERENCES `T4P2.1`.`apartamento` (`id_apartamento`)
    ON DELETE RESTRICT
    ON UPDATE CASCADE)
ENGINE = InnoDB;


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

salesianos COLEGIO SAN JUAN BOSCO LA CUESTA	***Bases de datos***	EDUQATIA ISO 9001 ACREDITADO POR ENAC	**1º DAM**
	Tema 4 – Modelo Relacional		**Práctica**
			Nº2
NOMBRE: Alonso Marrero Bello			

Taea 2: (3 puntos)

Dado el esquema E/R de la figura correspondiente a la base de datos sobre proveedores. Se pide transformarlo al modelo relacional mediante la herramienta MySQL Workbench.





```
-- 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 T4P2.2
-- -----------------------------------------------------

-- -----------------------------------------------------
-- Schema T4P2.2
-- -----------------------------------------------------
CREATE SCHEMA IF NOT EXISTS `T4P2.2` DEFAULT CHARACTER SET utf8 ;
USE `T4P2.2` ;

-- -----------------------------------------------------
-- Table `T4P2.2`.`curso`
-- -----------------------------------------------------
CREATE TABLE IF NOT EXISTS `T4P2.2`.`curso` (
 `idcurso` INT UNSIGNED NOT NULL AUTO_INCREMENT,
 `nombre` VARCHAR(45) NULL,
 `descripcion` VARCHAR(45) NULL,
 `duracion` INT UNSIGNED NULL,
 `coste` INT UNSIGNED NULL,
 PRIMARY KEY (`idcurso`))
ENGINE = InnoDB;


-- -----------------------------------------------------
-- Table `T4P2.2`.`empleado`
-- -----------------------------------------------------
CREATE TABLE IF NOT EXISTS `T4P2.2`.`empleado` (
 `idempleado` INT UNSIGNED NOT NULL,
 `nombre` VARCHAR(45) NULL,
 `apellidos` VARCHAR(45) NULL,
 `telefono` VARCHAR(15) NULL,
 `nif` VARCHAR(9) NULL,
 `salario` FLOAT NULL,
 `fecha_nac` DATE NULL,
 `direccion` VARCHAR(45) NULL,
 `capacitado` TINYINT NULL,
 PRIMARY KEY (`idempleado`))
ENGINE = InnoDB;
```

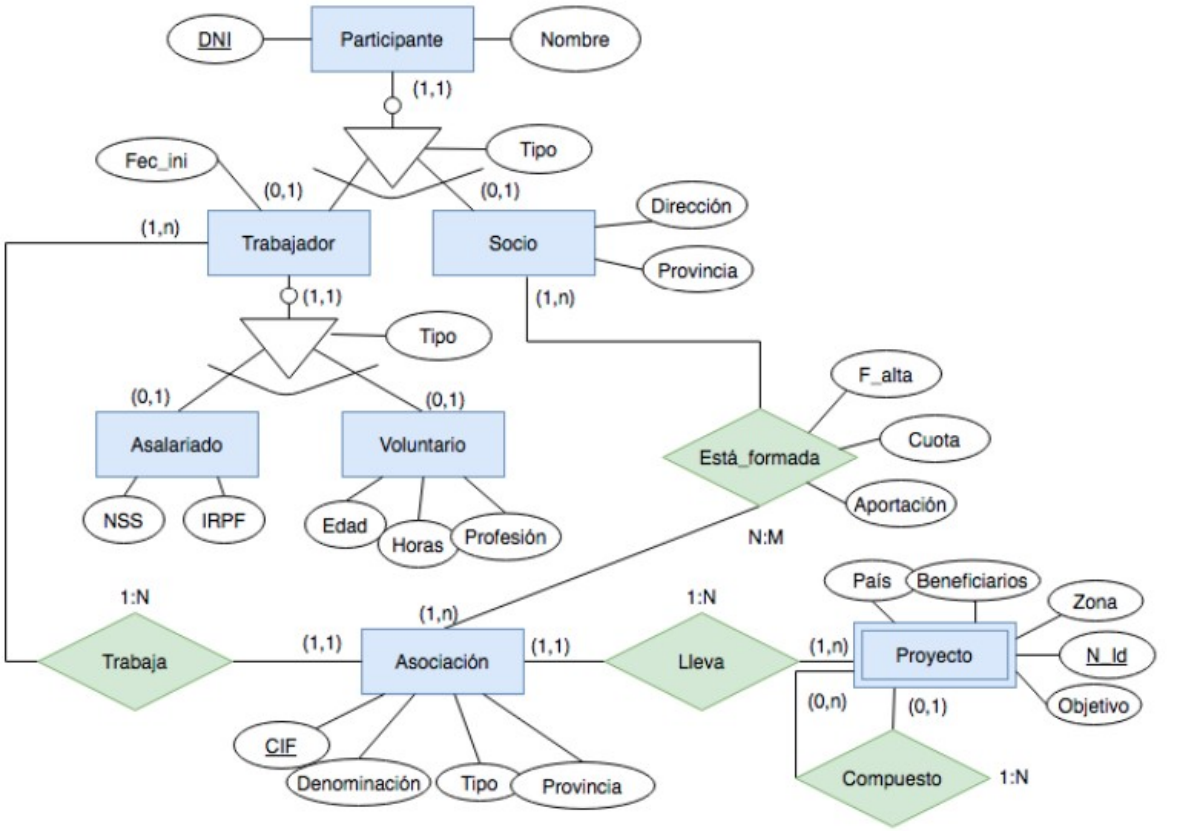
```
-- -----------------------------------------------------
-- Table `T4P2.2`.`edicion`
-- -----------------------------------------------------
CREATE TABLE IF NOT EXISTS `T4P2.2`.`edicion` (
  `idedicion` INT UNSIGNED NOT NULL AUTO_INCREMENT,
  `lugar` VARCHAR(45) NULL,
  `fecha` DATE NULL,
  `horario` VARCHAR(45) NULL,
  `idcurso` INT UNSIGNED NULL,
  `idempleado` INT UNSIGNED NULL,
  PRIMARY KEY (`idedicion`),
  INDEX `idcurso` (`idcurso` ASC) VISIBLE,
  INDEX `idempleado` (`idempleado` ASC) VISIBLE,
  CONSTRAINT `edicionCurso`
    FOREIGN KEY (`idcurso`)
    REFERENCES `T4P2.2`.`curso` (`idcurso`)
    ON DELETE RESTRICT
    ON UPDATE CASCADE,
  CONSTRAINT `edicionEmpleado`
    FOREIGN KEY (`idempleado`)
    REFERENCES `T4P2.2`.`empleado` (`idempleado`)
    ON DELETE NO ACTION
    ON UPDATE NO ACTION)
ENGINE = InnoDB;


-- -----------------------------------------------------
-- Table `T4P2.2`.`prerequisito`
-- -----------------------------------------------------
CREATE TABLE IF NOT EXISTS `T4P2.2`.`prerequisito` (
  `idcurso` INT UNSIGNED NOT NULL,
  `idcurso_pre` INT UNSIGNED NOT NULL,
  `obligatorio` VARCHAR(45) NULL,
  PRIMARY KEY (`idcurso`, `idcurso_pre`),
  INDEX `idcurso` (`idcurso` ASC) INVISIBLE,
  INDEX `idcurso_pre` (`idcurso_pre` ASC) VISIBLE,
  CONSTRAINT `prerequisitoCurso`
    FOREIGN KEY (`idcurso`)
    REFERENCES `T4P2.2`.`curso` (`idcurso`)
    ON DELETE RESTRICT
    ON UPDATE CASCADE,
  CONSTRAINT `prerequisitoCursoRef`
    FOREIGN KEY (`idcurso_pre`)
    REFERENCES `T4P2.2`.`curso` (`idcurso`)
    ON DELETE RESTRICT
```

```
    ON UPDATE CASCADE)
ENGINE = InnoDB;


-- -----------------------------------------------------
-- Table `T4P2.2`.`Recibe`
-- -----------------------------------------------------
CREATE TABLE IF NOT EXISTS `T4P2.2`.`Recibe` (
  `idcurso` INT UNSIGNED NOT NULL,
  `idempleado` INT UNSIGNED NOT NULL,
  `idedicion` INT UNSIGNED NOT NULL,
  PRIMARY KEY (`idcurso`, `idempleado`, `idedicion`),
  INDEX `idcurso` (`idcurso` ASC) INVISIBLE,
  INDEX `idempleado` (`idempleado` ASC) INVISIBLE,
  INDEX `idedicion` (`idedicion` ASC) VISIBLE,
  CONSTRAINT `recibeCurso`
    FOREIGN KEY (`idcurso`)
    REFERENCES `T4P2.2`.`curso` (`idcurso`)
    ON DELETE RESTRICT
    ON UPDATE CASCADE,
  CONSTRAINT `recibeEmpleado`
    FOREIGN KEY (`idempleado`)
    REFERENCES `T4P2.2`.`empleado` (`idempleado`)
    ON DELETE RESTRICT
    ON UPDATE CASCADE,
  CONSTRAINT `recibeEdicion`
    FOREIGN KEY (`idedicion`)
    REFERENCES `T4P2.2`.`edicion` (`idedicion`)
    ON DELETE RESTRICT
    ON UPDATE CASCADE)
ENGINE = InnoDB;


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

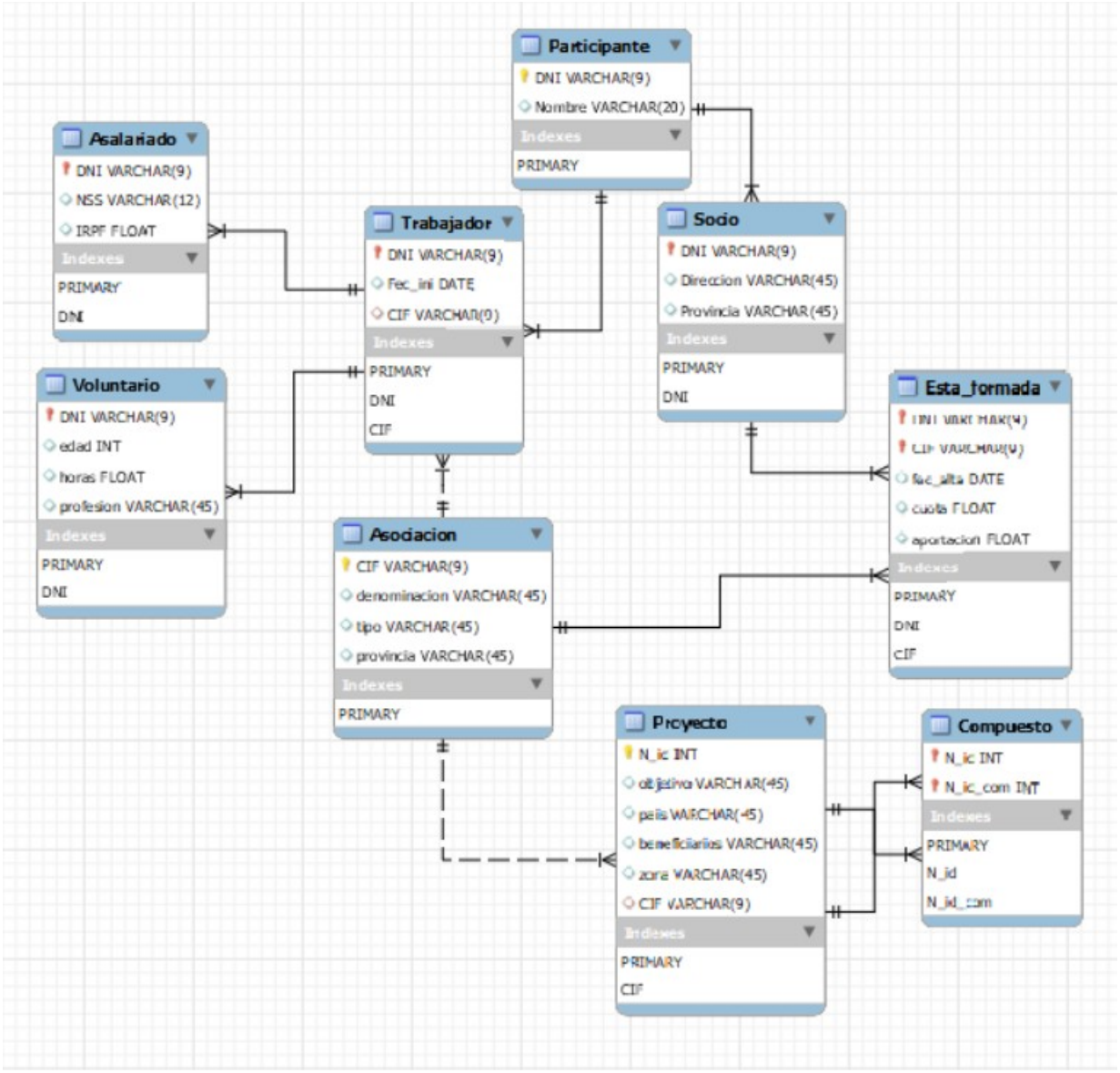
salesianos COLEGIO SAN JUAN BOSCO LA CUESTA	***Bases de datos***	EDUQATÍA ISO 9001 ACREDITADO POR ENAC	**1º DAM**
	Tema 4 – Modelo Relacional		**Práctica**
			Nº2
NOMBRE: Alonso Marrero Bello			

Tarea 3: (4 puntos)

Dado el esquema E/R de la figura, se pide transformarlo al modelo relacional, para la creación de las estructuras de las tablas deberás usar la herramienta MySQL Workbench.



salesianos COLEGIO SAN JUAN BOSCO LA CUESTA	**Bases de datos**	EDUQATIA ISO 9001 ACREDITADO POR ENAC	**1º DAM**
	Tema 4 – Modelo Relacional		**Práctica**
			Nº2
NOMBRE: Alonso Marrero Bello			



-- 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 T4P2.3
-- ---

-- ---

salesianos COLEGIO SAN JUAN BOSCO LA CUESTA	***Bases de datos***	EDUQATIA ISO 9001 ACREDITADO POR ENAC	**1º DAM**
	Tema 4 – Modelo Relacional		**Práctica**
			Nº2
NOMBRE: Alonso Marrero Bello			

```
-- Schema T4P2.3
-- -----------------------------------------------------
CREATE SCHEMA IF NOT EXISTS `T4P2.3` DEFAULT CHARACTER SET utf8 ;
USE `T4P2.3` ;

-- -----------------------------------------------------
-- Table `T4P2.3`.`Participante`
-- -----------------------------------------------------
CREATE TABLE IF NOT EXISTS `T4P2.3`.`Participante` (
  `DNI` VARCHAR(9) NOT NULL,
  `Nombre` VARCHAR(20) NULL,
  PRIMARY KEY (`DNI`))
ENGINE = InnoDB;


-- -----------------------------------------------------
-- Table `T4P2.3`.`Asociacion`
-- -----------------------------------------------------
CREATE TABLE IF NOT EXISTS `T4P2.3`.`Asociacion` (
  `CIF` VARCHAR(9) NOT NULL,
  `denominacion` VARCHAR(45) NULL,
  `tipo` VARCHAR(45) NULL,
  `provincia` VARCHAR(45) NULL,
  PRIMARY KEY (`CIF`))
ENGINE = InnoDB;


-- -----------------------------------------------------
-- Table `T4P2.3`.`Trabajador`
-- -----------------------------------------------------
CREATE TABLE IF NOT EXISTS `T4P2.3`.`Trabajador` (
  `DNI` VARCHAR(9) NOT NULL,
  `Fec_ini` DATE NULL,
  `CIF` VARCHAR(9) NULL,
  PRIMARY KEY (`DNI`),
  INDEX `DNI` (`DNI` ASC) VISIBLE,
  INDEX `CIF` (`CIF` ASC) VISIBLE,
  CONSTRAINT `ParticipanteTrabajador`
    FOREIGN KEY (`DNI`)
    REFERENCES `T4P2.3`.`Participante` (`DNI`)
    ON DELETE RESTRICT
    ON UPDATE CASCADE,
  CONSTRAINT `TrabajadorAsociacion`
    FOREIGN KEY (`CIF`)
    REFERENCES `T4P2.3`.`Asociacion` (`CIF`)
    ON DELETE RESTRICT
    ON UPDATE CASCADE)
```

```
ENGINE = InnoDB;


-- -----------------------------------------------------
-- Table `T4P2.3`.`Socio`
-- -----------------------------------------------------
CREATE TABLE IF NOT EXISTS `T4P2.3`.`Socio` (
  `DNI` VARCHAR(9) NOT NULL,
  `Direccion` VARCHAR(45) NULL,
  `Provincia` VARCHAR(45) NULL,
  PRIMARY KEY (`DNI`),
  INDEX `DNI` (`DNI` ASC) VISIBLE,
  CONSTRAINT `ParticipanteSocio`
    FOREIGN KEY (`DNI`)
    REFERENCES `T4P2.3`.`Participante` (`DNI`)
    ON DELETE RESTRICT
    ON UPDATE CASCADE)
ENGINE = InnoDB;


-- -----------------------------------------------------
-- Table `T4P2.3`.`Asalariado`
-- -----------------------------------------------------
CREATE TABLE IF NOT EXISTS `T4P2.3`.`Asalariado` (
  `DNI` VARCHAR(9) NOT NULL,
  `NSS` VARCHAR(12) NULL,
  `IRPF` FLOAT NULL,
  PRIMARY KEY (`DNI`),
  INDEX `DNI` (`DNI` ASC) VISIBLE,
  CONSTRAINT `TrabajadorAsalariado`
    FOREIGN KEY (`DNI`)
    REFERENCES `T4P2.3`.`Trabajador` (`DNI`)
    ON DELETE RESTRICT
    ON UPDATE CASCADE)
ENGINE = InnoDB;


-- -----------------------------------------------------
-- Table `T4P2.3`.`Voluntario`
-- -----------------------------------------------------
CREATE TABLE IF NOT EXISTS `T4P2.3`.`Voluntario` (
  `DNI` VARCHAR(9) NOT NULL,
  `edad` INT NULL,
  `horas` FLOAT NULL,
  `profesion` VARCHAR(45) NULL,
  PRIMARY KEY (`DNI`),
  INDEX `DNI` (`DNI` ASC) VISIBLE,
```

```
  CONSTRAINT `TrabajadorVoluntario`
    FOREIGN KEY (`DNI`)
    REFERENCES `T4P2.3`.`Trabajador` (`DNI`)
    ON DELETE RESTRICT
    ON UPDATE CASCADE)
ENGINE = InnoDB;


-- -----------------------------------------------------
-- Table `T4P2.3`.`Proyecto`
-- -----------------------------------------------------
CREATE TABLE IF NOT EXISTS `T4P2.3`.`Proyecto` (
  `N_id` INT NOT NULL,
  `objetivo` VARCHAR(45) NULL,
  `pais` VARCHAR(45) NULL,
  `beneficiarios` VARCHAR(45) NULL,
  `zona` VARCHAR(45) NULL,
  `CIF` VARCHAR(9) NULL,
  PRIMARY KEY (`N_id`),
  INDEX `CIF` (`CIF` ASC) VISIBLE,
  CONSTRAINT `CIF_Aso`
    FOREIGN KEY (`CIF`)
    REFERENCES `T4P2.3`.`Asociacion` (`CIF`)
    ON DELETE RESTRICT
    ON UPDATE CASCADE)
ENGINE = InnoDB;


-- -----------------------------------------------------
-- Table `T4P2.3`.`Esta_formada`
-- -----------------------------------------------------
CREATE TABLE IF NOT EXISTS `T4P2.3`.`Esta_formada` (
  `DNI` VARCHAR(9) NOT NULL,
  `CIF` VARCHAR(9) NOT NULL,
  `fec_alta` DATE NULL,
  `cuota` FLOAT NULL,
  `aportacion` FLOAT NULL,
  PRIMARY KEY (`DNI`, `CIF`),
  INDEX `DNI` (`DNI` ASC) INVISIBLE,
  INDEX `CIF` (`CIF` ASC) VISIBLE,
  CONSTRAINT `DNI_Socio`
    FOREIGN KEY (`DNI`)
    REFERENCES `T4P2.3`.`Socio` (`DNI`)
    ON DELETE RESTRICT
    ON UPDATE CASCADE,
  CONSTRAINT `CIF_Asocia`
    FOREIGN KEY (`CIF`)
```

```
    REFERENCES `T4P2.3`.`Asociacion` (`CIF`)
    ON DELETE RESTRICT
    ON UPDATE CASCADE)
ENGINE = InnoDB;


-- -----------------------------------------------------
-- Table `T4P2.3`.`Compuesto`
-- -----------------------------------------------------
CREATE TABLE IF NOT EXISTS `T4P2.3`.`Compuesto` (
  `N_id` INT NOT NULL,
  `N_id_com` INT NOT NULL,
  PRIMARY KEY (`N_id`, `N_id_com`),
  INDEX `N_id` (`N_id` ASC) VISIBLE,
  INDEX `N_id_com` (`N_id_com` ASC) INVISIBLE,
  CONSTRAINT `N_id`
    FOREIGN KEY (`N_id`)
    REFERENCES `T4P2.3`.`Proyecto` (`N_id`)
    ON DELETE RESTRICT
    ON UPDATE CASCADE,
  CONSTRAINT `N_id_com`
    FOREIGN KEY (`N_id_com`)
    REFERENCES `T4P2.3`.`Proyecto` (`N_id`)
    ON DELETE RESTRICT
    ON UPDATE CASCADE)
ENGINE = InnoDB;


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