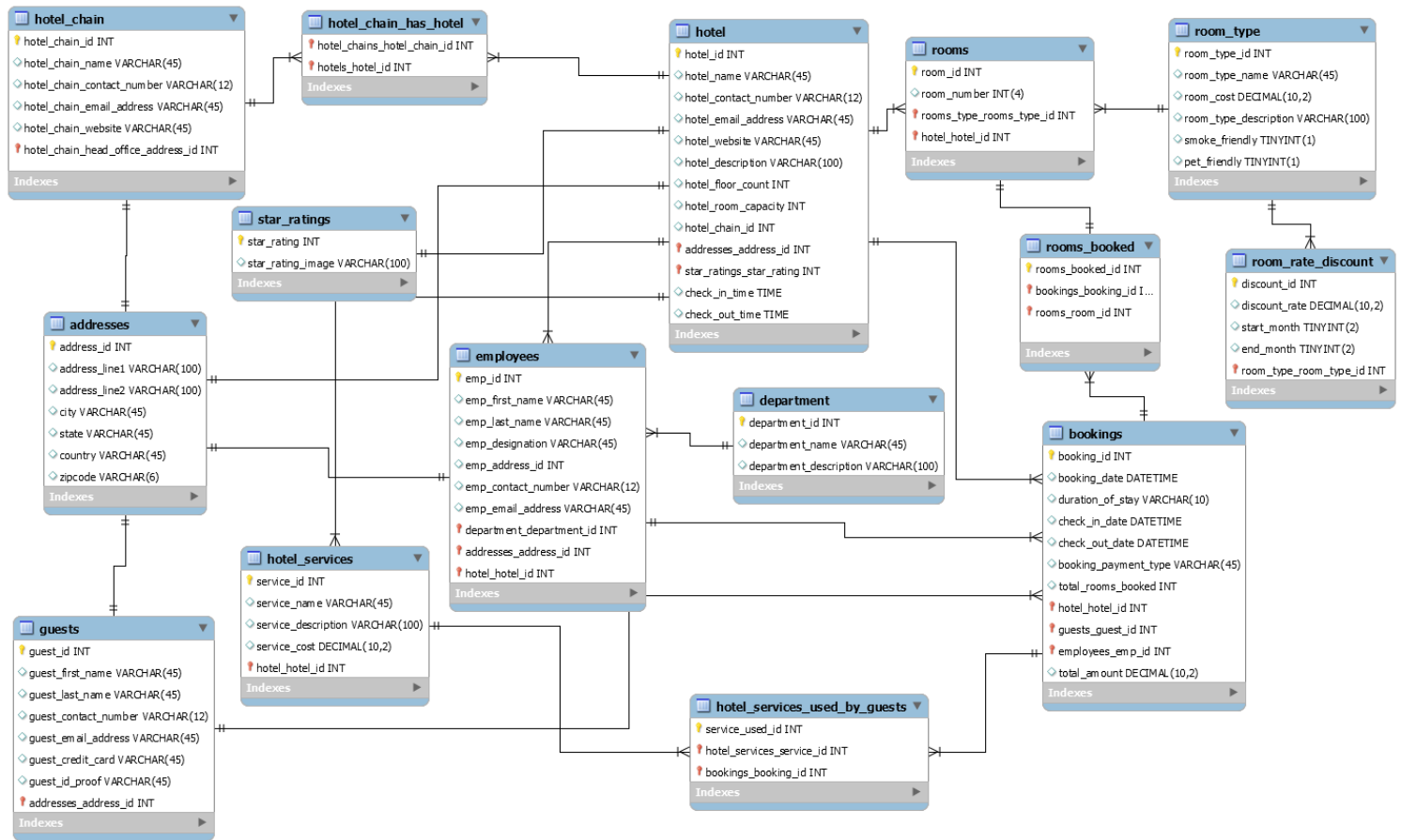Harshit Aggarwal

RA1911003010782

DBMS EXP5

ERR DIAGRAM for Hotel Management System:

Hotel Database Creation:

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='TRADITIONAL,ALLOW_INVALID_DATES';

-- ---

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

USE `hotel_database` ;

-- ---

Harshit Aggarwal
RA1911003010782

```
-- Table `hotel_database`.`addresses`

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

DROP TABLE IF EXISTS `hotel_database`.`addresses` ;


CREATE TABLE IF NOT EXISTS `hotel_database`.`addresses` (

  `address_id` INT NOT NULL,

  `address_line1` VARCHAR(100) NULL,

  `address_line2` VARCHAR(100) NULL,

  `city` VARCHAR(45) NULL,

  `state` VARCHAR(45) NULL,

  `country` VARCHAR(45) NULL,

  `zipcode` VARCHAR(8) NULL,

  PRIMARY KEY (`address_id`))

ENGINE = InnoDB;



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

-- Table `hotel_database`.`hotel_chain`

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

DROP TABLE IF EXISTS `hotel_database`.`hotel_chain` ;


CREATE TABLE IF NOT EXISTS `hotel_database`.`hotel_chain` (

  `hotel_chain_id` INT NOT NULL,

  `hotel_chain_name` VARCHAR(45) NULL,

  `hotel_chain_contact_number` VARCHAR(12) NULL,

  `hotel_chain_email_address` VARCHAR(45) NULL,

  `hotel_chain_website` VARCHAR(45) NULL,

  `hotel_chain_head_office_address_id` INT NOT NULL,

  PRIMARY KEY (`hotel_chain_id`, `hotel_chain_head_office_address_id`),

  CONSTRAINT `fk_hotel_chains_addresses1`

    FOREIGN KEY (`hotel_chain_head_office_address_id`)
```

```
    REFERENCES `hotel_database`.`addresses` (`address_id`)

    ON DELETE NO ACTION

    ON UPDATE NO ACTION)

ENGINE = InnoDB;


CREATE INDEX `fk_hotel_chains_addresses1_idx` ON `hotel_database`.`hotel_chain`
(`hotel_chain_head_office_address_id` ASC);


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

-- Table `hotel_database`.`star_ratings`

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

DROP TABLE IF EXISTS `hotel_database`.`star_ratings` ;


CREATE TABLE IF NOT EXISTS `hotel_database`.`star_ratings` (

  `star_rating` INT NOT NULL,

  `star_rating_image` VARCHAR(100) NULL,

  PRIMARY KEY (`star_rating`))

ENGINE = InnoDB;


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

-- Table `hotel_database`.`hotel`

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

DROP TABLE IF EXISTS `hotel_database`.`hotel` ;


CREATE TABLE IF NOT EXISTS `hotel_database`.`hotel` (

  `hotel_id` INT NOT NULL,

  `hotel_name` VARCHAR(45) NULL,

  `hotel_contact_number` VARCHAR(12) NULL,

  `hotel_email_address` VARCHAR(45) NULL,
```

```
  `hotel_website` VARCHAR(45) NULL,

  `hotel_description` VARCHAR(100) NULL,

  `hotel_floor_count` INT NULL,

  `hotel_room_capacity` INT NULL,

  `hotel_chain_id` INT NULL,

  `addresses_address_id` INT NOT NULL,

  `star_ratings_star_rating` INT NOT NULL,

  `check_in_time` TIME NULL,

  `check_out_time` TIME NULL,

  PRIMARY KEY (`hotel_id`, `addresses_address_id`, `star_ratings_star_rating`),

  CONSTRAINT `fk_hotels_addresses1`

    FOREIGN KEY (`addresses_address_id`)

    REFERENCES `hotel_database`.`addresses` (`address_id`)

    ON DELETE NO ACTION

    ON UPDATE NO ACTION,

  CONSTRAINT `fk_hotel_star_ratings1`

    FOREIGN KEY (`star_ratings_star_rating`)

    REFERENCES `hotel_database`.`star_ratings` (`star_rating`)

    ON DELETE NO ACTION

    ON UPDATE NO ACTION)

ENGINE = InnoDB

COMMENT = '              ';


CREATE INDEX `fk_hotels_addresses1_idx` ON `hotel_database`.`hotel` (`addresses_address_id`
ASC);


CREATE INDEX `fk_hotel_star_ratings1_idx` ON `hotel_database`.`hotel` (`star_ratings_star_rating`
ASC);


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

-- Table `hotel_database`.`room_type`
```

Harshit Aggarwal
RA1911003010782

```sql
-- -----------------------------------------------------

DROP TABLE IF EXISTS `hotel_database`.`room_type` ;


CREATE TABLE IF NOT EXISTS `hotel_database`.`room_type` (
  `room_type_id` INT NOT NULL,
  `room_type_name` VARCHAR(45) NULL,
  `room_cost` DECIMAL(10,2) NULL,
  `room_type_description` VARCHAR(100) NULL,
  `smoke_friendly` TINYINT(1) NULL,
  `pet_friendly` TINYINT(1) NULL,
  PRIMARY KEY (`room_type_id`))
ENGINE = InnoDB;




-- -----------------------------------------------------
-- Table `hotel_database`.`rooms`
-- -----------------------------------------------------
DROP TABLE IF EXISTS `hotel_database`.`rooms` ;


CREATE TABLE IF NOT EXISTS `hotel_database`.`rooms` (
  `room_id` INT NOT NULL,
  `room_number` INT(4) NULL,
  `rooms_type_rooms_type_id` INT NOT NULL,
  `hotel_hotel_id` INT NOT NULL,
  PRIMARY KEY (`room_id`, `rooms_type_rooms_type_id`, `hotel_hotel_id`),
  CONSTRAINT `fk_rooms_rooms_type1`
    FOREIGN KEY (`rooms_type_rooms_type_id`)
    REFERENCES `hotel_database`.`room_type` (`room_type_id`)
    ON DELETE NO ACTION
    ON UPDATE NO ACTION,
  CONSTRAINT `fk_rooms_hotel1`
```

```sql
    FOREIGN KEY (`hotel_hotel_id`)

    REFERENCES `hotel_database`.`hotel` (`hotel_id`)

    ON DELETE NO ACTION

    ON UPDATE NO ACTION)

ENGINE = InnoDB;


CREATE INDEX `fk_rooms_rooms_type1_idx` ON `hotel_database`.`rooms`
(`rooms_type_rooms_type_id` ASC);


CREATE INDEX `fk_rooms_hotel1_idx` ON `hotel_database`.`rooms` (`hotel_hotel_id` ASC);




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

-- Table `hotel_database`.`guests`

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

DROP TABLE IF EXISTS `hotel_database`.`guests` ;


CREATE TABLE IF NOT EXISTS `hotel_database`.`guests` (

  `guest_id` INT NOT NULL,

  `guest_first_name` VARCHAR(45) NULL,

  `guest_last_name` VARCHAR(45) NULL,

  `guest_contact_number` VARCHAR(12) NULL,

  `guest_email_address` VARCHAR(45) NULL,

  `guest_credit_card` VARCHAR(45) NULL,

  `guest_id_proof` VARCHAR(45) NULL,

  `addresses_address_id` INT NOT NULL,

  PRIMARY KEY (`guest_id`, `addresses_address_id`),

  CONSTRAINT `fk_guests_addresses1`

    FOREIGN KEY (`addresses_address_id`)

    REFERENCES `hotel_database`.`addresses` (`address_id`)

    ON DELETE NO ACTION
```

```
    ON UPDATE NO ACTION)

ENGINE = InnoDB

COMMENT = '   ';
```

```
CREATE INDEX `fk_guests_addresses1_idx` ON `hotel_database`.`guests` (`addresses_address_id`
ASC);
```

```
-- ----------------------------------------------------

-- Table `hotel_database`.`department`

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

DROP TABLE IF EXISTS `hotel_database`.`department` ;
```

```
CREATE TABLE IF NOT EXISTS `hotel_database`.`department` (

 `department_id` INT NOT NULL,

 `department_name` VARCHAR(45) NULL,

 `department_description` VARCHAR(100) NULL,

 PRIMARY KEY (`department_id`))

ENGINE = InnoDB;
```

```
-- ----------------------------------------------------

-- Table `hotel_database`.`employees`

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

DROP TABLE IF EXISTS `hotel_database`.`employees` ;
```

```
CREATE TABLE IF NOT EXISTS `hotel_database`.`employees` (

 `emp_id` INT NOT NULL,

 `emp_first_name` VARCHAR(45) NULL,

 `emp_last_name` VARCHAR(45) NULL,

 `emp_designation` VARCHAR(45) NULL,
```

Harshit Aggarwal
RA1911003010782

```
  `emp_contact_number` VARCHAR(12) NULL,

  `emp_email_address` VARCHAR(45) NULL,

  `department_department_id` INT NOT NULL,

  `addresses_address_id` INT NOT NULL,

  `hotel_hotel_id` INT NOT NULL,

 PRIMARY KEY (`emp_id`, `department_department_id`, `addresses_address_id`, `hotel_hotel_id`),

 CONSTRAINT `fk_employees_services1`

   FOREIGN KEY (`department_department_id`)

   REFERENCES `hotel_database`.`department` (`department_id`)

   ON DELETE NO ACTION

   ON UPDATE NO ACTION,

  CONSTRAINT `fk_employees_addresses1`

   FOREIGN KEY (`addresses_address_id`)

   REFERENCES `hotel_database`.`addresses` (`address_id`)

   ON DELETE NO ACTION

   ON UPDATE NO ACTION,

  CONSTRAINT `fk_employees_hotel1`

   FOREIGN KEY (`hotel_hotel_id`)

   REFERENCES `hotel_database`.`hotel` (`hotel_id`)

   ON DELETE NO ACTION

   ON UPDATE NO ACTION)
ENGINE = InnoDB;


CREATE INDEX `fk_employees_services1_idx` ON `hotel_database`.`employees`
(`department_department_id` ASC);


CREATE INDEX `fk_employees_addresses1_idx` ON `hotel_database`.`employees`
(`addresses_address_id` ASC);


CREATE INDEX `fk_employees_hotel1_idx` ON `hotel_database`.`employees` (`hotel_hotel_id` ASC);
```

Harshit Aggarwal
RA1911003010782

```sql
-- ----------------------------------------------------

-- Table `hotel_database`.`bookings`

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

DROP TABLE IF EXISTS `hotel_database`.`bookings` ;


CREATE TABLE IF NOT EXISTS `hotel_database`.`bookings` (
  `booking_id` INT NOT NULL,
  `booking_date` DATETIME NULL,
  `duration_of_stay` VARCHAR(10) NULL,
  `check_in_date` DATETIME NULL,
  `check_out_date` DATETIME NULL,
  `booking_payment_type` VARCHAR(45) NULL,
  `total_rooms_booked` INT NULL,
  `hotel_hotel_id` INT NOT NULL,
  `guests_guest_id` INT NOT NULL,
  `employees_emp_id` INT NOT NULL,
  `total_amount` DECIMAL(10,2) NULL,
  PRIMARY KEY (`booking_id`, `hotel_hotel_id`, `guests_guest_id`, `employees_emp_id`),
  CONSTRAINT `fk_bookings_hotel1`
    FOREIGN KEY (`hotel_hotel_id`)
    REFERENCES `hotel_database`.`hotel` (`hotel_id`)
    ON DELETE NO ACTION
    ON UPDATE NO ACTION,
  CONSTRAINT `fk_bookings_guests1`
    FOREIGN KEY (`guests_guest_id`)
    REFERENCES `hotel_database`.`guests` (`guest_id`)
    ON DELETE NO ACTION
    ON UPDATE NO ACTION,
  CONSTRAINT `fk_bookings_employees1`
    FOREIGN KEY (`employees_emp_id` )
    REFERENCES `hotel_database`.`employees` (`emp_id` )
```

```
    ON DELETE NO ACTION

    ON UPDATE NO ACTION)

ENGINE = InnoDB;


CREATE INDEX `fk_bookings_hotel1_idx` ON `hotel_database`.`bookings` (`hotel_hotel_id` ASC);


CREATE INDEX `fk_bookings_guests1_idx` ON `hotel_database`.`bookings` (`guests_guest_id` ASC);


CREATE INDEX `fk_bookings_employees1_idx` ON `hotel_database`.`bookings` (`employees_emp_id`
ASC);




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

-- Table `hotel_database`.`hotel_chain_has_hotel`

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

DROP TABLE IF EXISTS `hotel_database`.`hotel_chain_has_hotel` ;


CREATE TABLE IF NOT EXISTS `hotel_database`.`hotel_chain_has_hotel` (

 `hotel_chains_hotel_chain_id` INT NOT NULL,


 `hotels_hotel_id` INT NOT NULL,

 PRIMARY KEY (`hotel_chains_hotel_chain_id`,  `hotels_hotel_id`),

 CONSTRAINT `fk_hotel_chains_has_hotels_hotel_chains1`

  FOREIGN KEY (`hotel_chains_hotel_chain_id`)

  REFERENCES `hotel_database`.`hotel_chain` (`hotel_chain_id` )

  ON DELETE NO ACTION

  ON UPDATE NO ACTION,

 CONSTRAINT `fk_hotel_chains_has_hotels_hotels1`

  FOREIGN KEY (`hotels_hotel_id`)

  REFERENCES `hotel_database`.`hotel` (`hotel_id`)

  ON DELETE NO ACTION
```

```
    ON UPDATE NO ACTION)

ENGINE = InnoDB;


CREATE INDEX `fk_hotel_chains_has_hotels_hotels1_idx` ON
`hotel_database`.`hotel_chain_has_hotel` (`hotels_hotel_id` ASC);


CREATE INDEX `fk_hotel_chains_has_hotels_hotel_chains1_idx` ON
`hotel_database`.`hotel_chain_has_hotel` (`hotel_chains_hotel_chain_id` ASC);




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

-- Table `hotel_database`.`room_rate_discount`

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

DROP TABLE IF EXISTS `hotel_database`.`room_rate_discount` ;


CREATE TABLE IF NOT EXISTS `hotel_database`.`room_rate_discount` (

  `discount_id` INT NOT NULL,

  `discount_rate` DECIMAL(10,2) NULL,

  `start_month` TINYINT(1) NULL,

  `end_month` TINYINT(1) NULL,

  `room_type_room_type_id` INT NOT NULL,

  PRIMARY KEY (`discount_id`, `room_type_room_type_id`),

  CONSTRAINT `fk_room_rate_discount_room_type1`

    FOREIGN KEY (`room_type_room_type_id`)

    REFERENCES `hotel_database`.`room_type` (`room_type_id`)

    ON DELETE NO ACTION

    ON UPDATE NO ACTION)

ENGINE = InnoDB;


CREATE INDEX `fk_room_rate_discount_room_type1_idx` ON
`hotel_database`.`room_rate_discount` (`room_type_room_type_id` ASC);
```

Harshit Aggarwal
RA1911003010782

-- ---

-- Table `hotel_database`.`rooms_booked`

-- ---

DROP TABLE IF EXISTS `hotel_database`.`rooms_booked` ;

```sql
CREATE TABLE IF NOT EXISTS `hotel_database`.`rooms_booked` (
  `rooms_booked_id` INT NOT NULL,
  `bookings_booking_id` INT NOT NULL,
  `rooms_room_id` INT NOT NULL,
  PRIMARY KEY (`rooms_booked_id`, `bookings_booking_id`, `rooms_room_id`),
  CONSTRAINT `fk_rooms_booked_bookings1`
    FOREIGN KEY (`bookings_booking_id`)
    REFERENCES `hotel_database`.`bookings` (`booking_id`)
    ON DELETE NO ACTION
    ON UPDATE NO ACTION,
  CONSTRAINT `fk_rooms_booked_rooms1`
    FOREIGN KEY (`rooms_room_id`)
    REFERENCES `hotel_database`.`rooms` (`room_id`)
    ON DELETE NO ACTION
    ON UPDATE NO ACTION)
ENGINE = InnoDB;
```

CREATE INDEX `fk_rooms_booked_bookings1_idx` ON `hotel_database`.`rooms_booked` (`bookings_booking_id` ASC);

CREATE INDEX `fk_rooms_booked_rooms1_idx` ON `hotel_database`.`rooms_booked` (`rooms_room_id` ASC);

-- ---

-- Table `hotel_database`.`hotel_services`

Harshit Aggarwal
RA1911003010782

```sql
-- ------------------------------------------------------

DROP TABLE IF EXISTS `hotel_database`.`hotel_services` ;


CREATE TABLE IF NOT EXISTS `hotel_database`.`hotel_services` (
  `service_id` INT NOT NULL,
  `service_name` VARCHAR(45) NULL,
  `service_description` VARCHAR(100) NULL,
  `service_cost` DECIMAL(10,2) NULL,
  `hotel_hotel_id` INT NOT NULL,
  PRIMARY KEY (`service_id`, `hotel_hotel_id`),
  CONSTRAINT `fk_hotel_services_hotel1`
    FOREIGN KEY (`hotel_hotel_id`)
    REFERENCES `hotel_database`.`hotel` (`hotel_id`)
    ON DELETE NO ACTION
    ON UPDATE NO ACTION)
ENGINE = InnoDB;


CREATE INDEX `fk_hotel_services_hotel1_idx` ON `hotel_database`.`hotel_services` (`hotel_hotel_id`
ASC);



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

-- Table `hotel_database`.`hotel_services_used_by_guests`

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

DROP TABLE IF EXISTS `hotel_database`.`hotel_services_used_by_guests` ;


CREATE TABLE IF NOT EXISTS `hotel_database`.`hotel_services_used_by_guests` (
  `service_used_id` INT NOT NULL,
  `hotel_services_service_id` INT NOT NULL,
  `bookings_booking_id` INT NOT NULL,
  PRIMARY KEY (`service_used_id`, `hotel_services_service_id`, `bookings_booking_id`),
```

```
  CONSTRAINT `fk_hotel_services_has_bookings_hotel_services1`

   FOREIGN KEY (`hotel_services_service_id`)

   REFERENCES `hotel_database`.`hotel_services` (`service_id`)

   ON DELETE NO ACTION

   ON UPDATE NO ACTION,

  CONSTRAINT `fk_hotel_services_has_bookings_bookings1`

   FOREIGN KEY (`bookings_booking_id`)

   REFERENCES `hotel_database`.`bookings` (`booking_id`)

   ON DELETE NO ACTION

   ON UPDATE NO ACTION)

ENGINE = InnoDB;


CREATE INDEX `fk_hotel_services_has_bookings_bookings1_idx` ON
`hotel_database`.`hotel_services_used_by_guests` (`bookings_booking_id` ASC);


CREATE INDEX `fk_hotel_services_has_bookings_hotel_services1_idx` ON
`hotel_database`.`hotel_services_used_by_guests` (`hotel_services_service_id` ASC);



SET SQL_MODE=@OLD_SQL_MODE;

SET FOREIGN_KEY_CHECKS=@OLD_FOREIGN_KEY_CHECKS;

SET UNIQUE_CHECKS=@OLD_UNIQUE_CHECKS;
```