

UMBC
IS420 Database Application Development
Spring 2018
Group Project
Hotel Management System

Description

Hotels Group Inc. (HGI), is a fictitious hotel company. HGI is in desperate need of upgrading its hotel management system and has sought your help. Your team has been contacted by HGI and you have signed a contract to help them organize their office operations, using an Oracle database. You will code a PL/SQL procedures and functions with a number of operations that HGI will be using to perform the day-to-day business with rooms, reservations etc.

HGI is a typical hotel chain. Customers make reservations for specific dates and get specific services offered by hotel (nights they stay, hotel restaurant, etc.) which they pay for when they check out.

Database Design

There are several types of information to be stored in the database on hotels in different cities operated by HGI, customers, reservations, cancellations etc. You are free to make your own design in the database and create your own tables. The following list outlines the minimum information you should capture in the database. Feel free to add more tables and attributes if necessary to support the office operations more effectively.

The database you will create will have information on hotels, such as Address, Phone, Room Types available etc.

You should also store information on customers, such as Name, Address, Phone, Credit Card, etc.

The most vital part of the database should be information on reservations. It should include Client Name, Dates, Rate, Room Type, etc.

Assumptions

To make this project manageable and within time limits we have to make several assumptions. The purpose of these assumptions is to give specific details to certain situations to guide your coding efforts.

Month	Price
Sep - Apr	\$200
May - Aug	\$300

1. The rates of each hotel fluctuate according to peak season or off-season. Use the rate in the table provided for each room depending on the season.
2. You should make reservations for consecutive days for a specific Room type.
3. Guests can check-in with or without reservations.
4. If a reservation is made 2 months in advance or more, the customer gets a 10% discount on the rate. Otherwise, the customer has to pay full rate.

5. There **are no taxes charged to customers**. HGI made a deal with the IRS not to collect taxes from guests (to make things easier for the implementation)
6. **Room types: single room 1-bed, double-room 2-beds, suites, conference rooms**
7. **Guests pay their bills when they check-out.**
8. **A guest can reserve and stay in multiple rooms at the same time (e.g. a large family) and must pay for all reserved rooms.**
9. The services that are offered by all HGI hotels are the same. They include:
 - a. **Restaurant services** (assume \$20 per person per meal)
 - b. **Pay-per-view movies** (assume \$5 per movie)
 - c. **Laundry services** (assume \$10 per time – regardless of number of items)
10. **Guests can check out earlier** (before the last day they reserved a room) or later (they can stay longer if there is room availability)
11. Guests cannot reserve rooms that span across months with different rates. **You do not have to implement this, but do not enter reservations with this type of information**

Operations to be implemented

This is a list of **some** operations that must be included. The exact list of operations along with additional details for each one of them will be provided in a different file. **Each one of them must be implemented as a PL/SQL function or procedure.**

1. Add/delete a hotel
2. Make a reservation: Specify start/end dates, number of guests, room type(s), date of reservation, etc.
3. Add services to a reservation
4. Cancel a reservation
5. Change a reservation (dates, room type, etc.)
6. **Query the rooms (type, number, today's price) of all HGIs in the US**
7. **How many double-bed rooms does the HGI in a specific location (e.g. NYC) have, and how many of those rooms are reserved for a specific date?**
8. **List all current guests that spend more than \$100 in the hotel restaurant of any HGI in US**
9. **For a specific guest of a HGI hotel print (on screen) the bill at check out. Include:**
 - a. **Room number, charges per date, rate per day and possibly multiple rooms (if someone reserved several rooms)**
 - b. **Services rendered per date, type, and amount**
 - c. **Total amount to be paid**
10. For each hotel in the chain provide:
 - a. Income by room rate type
 - b. Income of services, by service type
 - c. Income by month
 - d. Total income for HGI Inc.
11. Total income from guests
 - a. By hotel
 - b. By state
 - c. By city