**CI 102 Databases: Sunshine Coast Hotel Assignment:**

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# Entity Documentation Form:

|  |  |  |
| --- | --- | --- |
| Entity Name | Description | Approximate number |
| cust\_info | The information about a customer that the hotel would keep, e.g. customer ID, name, address, arrival date… | 13 |
| cust\_extra | Any extras the customer has ordered during their stay, e.g. traditional breakfast, evening meal... | 10 |
| cust\_charge | How much the customer will be charged for their stay, including any extras. | 4 |
|  |  |  |

# Relationships Entity Form:

|  |  |  |  |
| --- | --- | --- | --- |
| From Entity | To Entity | Relationship Name | Multiplicity (1:1, 1:M, M:N) |
| cust\_info | cust\_extra | One customer can have many extras. | 1:M |
| cust\_charge | cust\_extra | One charge can have many extras. | 1:M |
| cust\_info | cust\_charge | One customer will be charged once. | 1:1 |
|  |  |  |  |
|  |  |  |  |

# Attributes Entity Form:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Entity | Attribute Name | Description | Data type & length | Nulls (Y/N) |
| cust\_info | cust\_ID | A unique key to identify a customer by, named the customer ID (cust\_ID); currently kept in a card index. | varchar, |  |
| cust\_first\_name | The first name of the customer. | varchar |  |
| cust\_second\_name | The second name of the customer. | varchar |  |
| cust\_address | The address of the customer, | varchar |  |
| cust\_post\_code | The postcode of the customer’s address. | varchar |  |
| booking\_ref | A unique key to identify the booking by. | varchar |  |
|  |  |  |  |  |
| cust\_charge | arrival\_date | The date that the booking commences, i.e. the day the customer(s) arrive; written as dd/mm/yyyy. |  |  |
| departure\_date | The date that the booking ends, i.e. the date that the customer(s) leave; written as dd/mm/yyyy. |  |  |
| number\_nights | How many nights the customer(s) is staying for. |  |  |
| number\_people | How many people will be staying in the room during the duration of the booking. |  |  |
| room\_numb | The room number that the customer has been allocated during their stay, the rooms being numbered from 101 to 359 over 3 floors, there are 20 rooms. |  |  |
| room\_type | The type of room that has been booked, it is allocated a number;   * type 1 = single, * type 2 = double, * type 3 = suite. |  |  |
| room \_description | What type of room it is;   * a double, * single,   suite. |  |  |
| price\_per\_night | How much the customer is being charged per night for their stay (in pounds). Customers are charged for a room at a standard rate, although it is recorded as the number of people per room.   * single = £40 per night. * double = £52 per night.   suite = £ per night. |  |  |

# Attributes Entity Form (Continued):

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Entity | Attribute Name | Description | Data type & length | Nulls (Y/N) |
| cust\_extra | extra \_date | The date for any extras the customer has asked for; written as dd/mm/yyyy. | date |  |
| extra \_time | The time the extra was asked for, written in am or pm. |  |  |
| extra \_type | The specific item the customer has ordered as an extra (to be added onto the bill at the end) that will be charged to their room; these can be:   * traditional breakfast. * continental breakfast. * evening meal. * range of bar snacks. * room service meal. |  |  |
| extra \_quantity | How many of one type of extra the customer has ordered; e.g. 2 extra evening meals. |  |  |
| extra \_price | How much one extra will cost;   * traditional breakfast = £10 * continental breakfast = £5 * evening meal = £35 (per person) * bar snacks = £15, * room service meal = £30 |  |  |
| extra\_item\_total | The total price of one type of extra that has been ordered. |  |  |
| extra \_total\_cost | The total cost of all the extras that have been ordered. |  |  |
| total\_room\_charge | The cost of just the room for the duration of the stay. |  |  |
| grand\_total | The total of everything, i.e. cost of room for the duration of the stay + any extras. |  |  |

# Marking Criteria:

|  |  |
| --- | --- |
|  | Marks available |
| All of the entities are identified and have well-written descriptions | 10 |
| All of the relationships are identified and have good names and correct multiplicities | 10 |
| All of the relevant attributes are identified with appropriate data types | 10 |
| Excellent ER diagram in which all entities and relationships are correctly represented | 20 |
| Relational data analysis on all company documentation provided | 20 |
| front-end report of: |  |
| Current bookings | 7.5 |
| Occupancy rates by month/week over the past year | 7.5 |
| Weekly/monthly income | 7.5 |
| Number of extras by category ordered in any given month and associated income | 7.5 |

**Sunshine Coast Hotel case study:**

The Sunshine Coast Hotel is a small family-run business on the south coast of England. They are doing well but, with constant visitors they find it difficult to keep track of costs and charges. They want to install a database system that will allow them to keep records of their visitors and print invoices in the first instance. They hope it will form the basis of further expansion.

Preliminary investigation of the requirements for the system has elicited the following facts:

* Rooms are numbered from 101 to 359 (although there are only 20 rooms in all, they are over 3 floors)
* Some rooms are accessible for wheelchair users and others are not
* Rooms are of three types:

1. Single – charged at £40 per night
2. Double - charged at £52 per night
3. Suite (suitable for a family of four) – charged at £95 per night

* Customers are charged for a room, at a standard rate, although a record is kept on the number of people in the room
* Customers are given a unique ‘customer ID’ and their information is currently kept in a card index
* Customers can order specific items which can be charged to their room as extras on their bill. These charged at a standard rates as follows:

1. Traditional breakfast – charged at £10
2. Continental breakfast – charged at £5
3. Evening meal - charged at £25 per person
4. Range of bar snacks – charged at £15
5. Room service meal – charged at £30

* Customers can buy other items, such as drinks from the bar, but these are paid for individually and not charged to the customer’s room.

The Sunshine Coast Hotel currently use pre-printed stationery and the reception staff write out invoices for customers when they leave. Below is an example of the invoices they use.