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

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# Entity Documentation:

## 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… | 3,650 (max)  240 (min)  1,040 (average) |
| Cust\_extra | Any extras the customer has ordered during their stay, e.g. traditional breakfast, evening meal... | 14,600 (max)  960 (min)  4160 (average) |
| Cust\_charge | How much the customer will be charged for their stay, including any extras. | 3,650 (max)  240 (min)  1,040 (average) |
| Booking | The information stored about the booking, such as; when they arrive, depart… | 3,650 (max)  240 (min)  1,040 (average) |
| Room | The details about the room, such as; the type of room, how many rooms… | 20 |
| Extras\_Charge | How much the customer will be charged for any extras they have ordered during their stay. | 3,650 (max)  240 (min)  1,040 (average) |
| Extra\_Info | The information about the extras, such as; when it was ordered, what was ordered, how much… | 3,650 (max)  240 (min)  1,040 (average) |
| Invoice | The total charge the customer. | 3,650 (max)  240 (min)  1,040 (average) |

# Entity Documentation (continued):

## Entity Documentation Form Reasoning:

|  |  |
| --- | --- |
| Entity Name | Reason for approximate number |
| Cust\_info | calculated how many customers they could have per year if they had one customer everyday (max), once a week (minimum) and then the average.  maximum = 20 x 182.5 ; assuming there will one customer per room every day with a stay of 2 days minimum.  minimum = 20 x 12 ; assuming there will be one customer per room every month.  average = 20 x 52 ; assuming that there will one customer per room every week. |
| Cust\_extra | calculated by taking the max, min and average of customers.  maximum = 3650 x 4; assuming that there are 2 people per room ordering 2 extras each per day of stay, i.e. meal and 2 snacks.  minimum = 240 x 4; assuming that there are 2 people per room ordering 2 extras each per week of stay, i.e. meal and 2 snacks.  average = 1040 x 4; assuming that there are 2 people per room ordering 2 extras each per month of stay, i.e. meal and 2 snacks. |
| Cust\_charge | one customer will have one charge per stay, however they may stay more than once.  maximum = 3650; the maximum of customers they can have in a year, whether they are repeating or not, using the 2-day min stay.  minimum = 240; the maximum of customers they can have in a year, whether they are repeating or not, using customer per month.  average = 1040; the maximum of customers they can have in a year whether they are repeating or not, using customer per week. |
| Booking | one customer may have one or many bookings (as they can be repeat).  maximum = 3650; as this is the max amount of customers they can have in a year with a 2-day minimum stay.  minimum = 240; as this is the max amount of customers they can have in a year with one customer a month.  average = 1040; as this is the max amount of customers they can have in a year with one customer a week. |
| Room | As there are 20 rooms. |
| Extras\_Charge | one customer will have one extra charge.  maximum = 3650; as this is the max amount of customers they can have in a year with a 2-day minimum stay that will be charged.  minimum = 240; as this is the max amount of customers they can have in a year with one customer a month that will be charged.  average = 1040; as this is the max amount of customers they can have in a year with one customer a week that will be charged. |
| Extra\_Info | there will be one extra info stored per customer there;  maximum = 3650; as this is the max amount of customers they can have in a year with a 2-day minimum.  minimum = 240; as this is the max amount of customers they can have in a year with one customer a mont.  average = 1040; as this is the max amount of customers they can have in a year with one customer a week. |
| Invoice | one customer will have one invoice per stay.  maximum = 3650; as this is the max amount of customers they can have in a year with a 2-day minimum stay that will be charged.  minimum = 240; as this is the max amount of customers they can have in a year with one customer a month that will be charged.  average = 1040; as this is the max amount of customers they can have in a year with one customer a week that will be charged. |

# Relationships Entity Form:

|  |  |  |  |
| --- | --- | --- | --- |
| From Entity | To Entity | Relationship Name | Multiplicity |
| cust\_info | booking | one customer may have many booking. | 1:M |
| cust\_info | invoice | one customer will have one invoice. | 1:1 |
| booking | room | one room may have many bookings. | 1:M |
| extra\_charge | booking | one extra\_charge may have many bookings and one booking may have many extra\_charge. | M:M |
| extra\_charge | extra\_info | one extra charge may have none, one or more extra-info. | 1:M |

# Attributes Entity Form:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Entity | Attribute Name | Description | Data type & length | Nulls (Y/N) |
| Cust\_Info | customer\_ID | A unique key to identify a customer by, named the customer ID (cust\_ID); currently kept in a card index. | varchar, 3 | N |
| cust\_first\_name | The first name of the customer. | varchar, 25 | N |
| cust\_second\_name | The second name of the customer. | varchar, 25 | N |
| cust\_address | The address of the customer, | varchar, 50 | N |
| cust\_post\_code | The postcode of the customer’s address. | varchar, 10 | N |
|  |  |  |  |  |
| Booking | booking\_ref | A unique key to identify the booking by. | varchar, 3 | N |
| customer\_ID | A unique key to identify a customer by, named the customer ID (cust\_ID); currently kept in a card index. | varchar, 3 | N |
| arrival\_date | The date that the booking commences, i.e. the day the customer(s) arrive; written as dd/mm/yyyy. | date, 10 | N |
| departure\_date | The date that the booking ends, i.e. the date that the customer(s) leave; written as dd/mm/yyyy. | date, 10 | N |
| 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. | varchar, 3 | N |
|  |  |  |  |  |
| Room | 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. | varchar, 3 | N |
| room\_type | The type of room that has been booked, it is allocated a number;   * type 1 = single, * type 2 = double, * type 3 = suite. | varchar, 1 | N |
| room \_description | What type of room it is;   * a double, * single, * suite. | varchar, 8 | Y |
| 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 = £95 per night. | int, 2 | N |
| total\_room\_charge | The cost of just the room for the duration of the stay. | int, 4 | Y |

# Attributes Entity Form (Continued):

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Entity | Attribute Name | Description | Data type & length | Nulls (Y/N) |
| Extras\_Charge | customer\_ID | A unique key to identify a customer by, named the customer ID (cust\_ID); currently kept in a card index. | varchar, 3 | N |
| extra\_ID | A unique key to identify which extras have been added to this invoice. | varchar, 3 | Y |
| extra \_total\_cost | The total cost of all the extras that have been ordered. | int, 3 | Y |
|  |  |  |  |  |
| Extra\_Info | extra\_ID | A unique key to identify which extras have been added to this invoice. | varchar, 3 | Y |
| 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. | varchar, 25 | Y |
| extra\_date | The date for any extras the customer has asked for; written as dd/mm/yyyy. | date, 10 | Y |
| extra\_time | The time the extra was asked for, written in am or pm. | time, 5 | Y |
| 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 | int, 2 | Y |
| extra\_item\_total | The total price of one type of extra that has been ordered. | int, 3 | Y |
|  |  |  |  |  |
| Invoice | invoice\_ID | A unique key to identify the invoice by. | varchar, 3 | N |
| cust\_ID | A unique key to identify a customer by, named the customer ID (cust\_ID); currently kept in a card index. | varchar, 3 | N |
| total\_room\_charge | The cost of just the room for the duration of the stay. | int, 4 | Y |
| extra \_total\_cost | The total cost of all the extras that have been ordered. | int, 3 | Y |
| grand\_total | The total of everything, i.e. cost of room for the duration of the stay + any extras. | varchar, 4 | Y |

# Entity Relationship Diagram:

A close up of text on a white background

Description generated with high confidence

<https://www.lucidchart.com/documents/edit/028b2150-1a2c-4186-96dc-4b9fba1e2018/0>

# Front End Report:

## Current bookings:

A screenshot of a cell phone

Description generated with very high confidence

A screenshot of a computer

Description generated with very high confidence

## Weekly/monthly income:

A screenshot of a social media post

Description generated with very high confidence

A screenshot of a cell phone

Description generated with very high confidence

## Number of extras by category ordered in any given month and associated income:

A screenshot of a cell phone

Description generated with very high confidence

A screenshot of a social media post

Description generated with very high confidence