**"Reservations Hellas Camp"**

Hellas Camp is a company which operates in the tourism industry. The company has a significant number of camping (camping) in mainland Greek region and the Greek islands. The company is mainly aimed at tourist groups but also individual tourists, who wish to camp in an area of the country us during their holidays.

Each camp has a number of places. As position is assigned a specific space area within the camp, in which customers can camp in a tent (Tent), caravan (caravan) or motor home (camper van). Each camp bears a three-letter code, a name and contains a certain number of places:

APL - Apollonia 70 posts

KIS - Kissamos 50 seats

DIS - Dionysus 100 posts

There are the following three categories of posts, each with a different nightly rate:

A - 5.00 Euro 10M^2 (Square meters)

B - 10.00 Euro 20 M^2

C - 15.00 Euro 30 M^2

Future need may arise to create new categories depending on market requirements. The company currently accepts the following payment methods:

CC - Credit Card (Credit Card)

CH - Cheque (Check)

CA - Cash (cash)

The staff of the camp record bookings in printed forms which bear the form of the following model:

# BOOKING FORM

**Reservation number:** 150 **Date:** February 10, 2019

**Payment code :** CC **Means of payment:** Credit Card

**Customer Surname:** Smith **Customer 's name:** Richard **Customer's code:** 1001 **Telephone:** (+ 44) 3182-832-192

**Employee Code:** 01 **Employee Last Name:** Georgiou **Employee Name:** Nicholas

| Code Camp | Camp name | Position number | Category position | Positioning area M 2 | cost of Equity | Start date | Date expiration | Number of people | Cost (Euro) |
|---|---|---|---|---|---|---|---|---|---|
| APL | Apollonia | 3 | A | 10 | 5 | 06/12/2019 | 06/14/2019 | 2 | 30 |
| APL | Apollonia | 28 | C | 30 | 15 | 06/12/2019 | 06/14/2019 | 4 | 180 |
| DIS | Dionysus | 3 | A | 10 | 5 | 06/12/2019 | 06/14/2019 | 2 | 30 |
| DIS | Dionysus | 15 | A | 10 | 5 | 06/15/2019 | 06/15/2019 | 4 | 20 |
| | | | | | | | | | |

**TOTAL COST: 260.00**

Hellas Camp has the following business rules (business rules):

K1: Each position of a camping is uniquely identified by a number. However, the same number can be used for a position in another camp.

K2: Each reservation has a unique code and all information listed in the above model is mandatory to carry out the booking.

K3: Each book takes place on the date of attainment of the corresponding booking form.

K4: A reservation may relate to several positions of one or more camps.

K5: The cost of each individual position of the reservation by multiplying the class value at which the position is, the number of nights and number of persons to be accommodated.

K6: The total cost of the booking occurs summing the cost of each position.

K7: The start date is the date of the first night, and the expiration date is the date of the last night.

K8: Each customer is assigned a unique number. K9: Each employee of Hellas Camp carries a unique number.

To be delivered:

**A)** To draw the logical format of a relational database to store and manage data more efficiently. Follow these steps:

1. Carefully read the description given to you, the detention and model business rules.

2. Identify the features that you think should be listed on the basis so thereby making it possible to manage all of the above information.

3. Create a primary ratio (an initial panel) with all the features selected in the previous step.

4. Starting with the initial connection that you created, start the process of normalization, until the logical shape of the base to be in the third normal form (3NF).

5. To document the process of normalization in detail quoting the relationships, so as obtained in any normal form (1NF, 2NF and 3NF). They should be explicitly stated keys and other attributes of each relationship.

**B)** To implement the logical scheme you designed using the relational database management system SQL SERVER. Specifically:

1. Implement the base tables by selecting the appropriate type for each field.

2. Define the necessary keys (primary and foreign keys) and apply them appropriate referential integrity constraints.

3. To apply the appropriate restrictions on field level (optional and Required fields and press CHECK constraints) .

4 Creating the logical shape of the base will be the execution of a SQL script that should be write.

At At this point the Design of the Database is completed. You will need to import some data and execute certain queries that help the camp into decision making.

The archive GeneratedData.txt includes the historical data which need to be loaded into the MainTable table.

A description of the fields of the table MainTable:

| **MainTable** | |
|---|---|
| bookCode | Reservation code |
| bookDt | Booking date |
| payCode | Payment code |
| payMethod | Payment Method |
| custCode | Customer's code |
| custName | Customer 's name |
| custSurname | Customer Surname |
| custPhone | Client Phone |
| staffNo | Employee Code |
| staffName | Employee name |
| staffSurname | Employee Last Name |
| **totalCost** | **Total Purchase Cost (Ignore this field)** |
| campCode | Code Camp |
| campName | Camp name |
| numOfEmp | Camp Number positions (Number of Emplacements) |
| empNo | location number (emplacement Number) |
| catCode | Class Code Class |

| | |
|---|---|
| areaM2 | Class Size in Square Meters |
| unitCost | cost location |

| | |
|---|---|
| startDt | Booking start date of a given position |
| endDt | Expiry date of booking a specific position |
| noPers | Number of people |
| **costPerRental** | **Cost of booking a specific position (Ignore this field)** |

To be delivered:

1. To create the logical shape of the base including MainTable table. To create the database will use the SQL script

   **CreateCampSchema.sql.**

2. Upload the file data to GeneratedData.txt MainTable table. For this purpose, use the SQL BulkLoad.sql script.
3. At this point, your data must take the appropriate form. For this reason you are asked to write an SQL script which will channel the remaining panels of the base data of MainTable table.

   **NOTE: Ignore the fields totalCost and costPerRental of mainTable table. Although there are in this table, as you can see are not included in the figure that creates the SQL script "CreateCampschema.sql".**

4. Write the appropriate commands in the SQL language to answer the following questions:

   a. Display the total number of reservations per payment.

   b. Display the name of the official who handled most reservations. Next to the name to be displayed and the number of bookings handled (taking into account the case where more than one staff handled most reservations).

   c. Display the total number of bookings containing only class positions "A" one or more camps.

d. Display a list with the name of each customer and the total number of reservations made in 2000. The list will be sorted by customer name.

e. Display the total value of bookings (total revenue) per camp.

5. To create appropriate indicators that will speed the execution of queries d. and e. List commands to create indices as well as evidence that the indicators created accelerate the execution of queries.