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| **COMP 3610: Database Systems** |

Assignment#2

**Due date: 5th March 2023 Weight : 5%**

**Objectives:**

* Design and implement a database with all the required procedures and functions

**Description:**

Fortune Car rentals are developing an automated system through which they wish to keep records of their vehicles, clients and daily reservations.

There are several rules they follow:

1. A client needs to register before they can make reservations. (every client will have client ID)
2. All the cars are registered in the vehicle table (each vehicle has a vehicle ID)
3. Reservation can be done from a start date to end date. An estimate budget is given to the client and the reservation is posted in the reservation table. Make sure end\_date is not entered yet. The procedure returns the reservation\_Id.
4. Reservation rules are:
   1. A client cannot rent a car if she/he is under the age of 18.
5. When client is returning the car (can pass reservation ID or client ID):
   1. The reservation ID is given.
   2. If a reservation is for more than 10 days, a 10% discount is offered
   3. If the reservation in having Christmas day in between, a 20% discount is offered.
   4. Now calculate the cost and ask for the payment.
   5. If client is not paying, or car is broken by the client, the client is moved to black list table with the reason
6. At the end of every year, the reservation table is emptied out (Leaving the records without end\_date)
7. The data is moved to the archieved\_reservation
8. Stats are generated and copied to the stats table.

The tentative Scheme is given below: (feel free to make changes)

# CLIENT

C\_ID

F\_NAME

L\_NAME

DOB

CITY

GENDER

# VEHICLE

V\_ID

V\_MODEL

V\_MAKE

COST\_PER\_DAY

# RESERVATION

R ID

START\_DATE

END\_DATE

C\_ID

V\_ID

TOTAL\_COST

# BLACK\_LIST

C\_ID

F\_NAME

L\_NAME

DOB

CITY

GENDER

REASON

ADDED\_BY

ADDED\_DATE

# ARCHIVED\_RESERVATION

R ID

START\_DATE

END\_DATE

C\_ID

V\_ID

TOTAL\_COST

ADDED\_BY

ADDED\_DATE

# STATS

YEAR

C\_ID

AGE

GENDER

TOT\_RESERVATIONS

TOT\_DAYS\_OF\_RESERVATIONS

TOT\_COST\_OF\_RESERVATIONS

The ultimate aim is to answer the following questions:

1. List all the active bookings for the cars.
2. List all the details of the clients having the cars rented today.
3. List all blacklisted clients
4. How many bookings do we have at Christmas time.
5. Generate the total revenue generated on a specific vehicle.

LAB SUBMISSION

Create a pdf file and email to the instructor, one copy per group. Document your solution, show the function, triggers, or stored procedures and their results.

1. Cover Page

2. Brief description of the problem and solution

3. Code of the procedure

4. Outputs

Rubric:

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| Steps | Description | Marks |
| 1. | Definition and creation of the tables | 10 |
| 2. | Definition and creation of at least two functions with results | 20 |
| 3. | Definition and creation of at least four procedures with results | 40 |
| 4. | Definition and creation of at least two triggers with results | 20 |
| 5. | Report with problem and solution | 10 |
|  | Total | 100 |