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**Metropolitan State University**

**ICS 311 —Database Management Systems**

**Homework #6**

**Homework #6 Total: 24 Points**

1. (4 Points) Create a view named “ATL\_CHARTERS\_V” that includes the following “For each charter of aircraft to Atlanta (STL), print the charter date, charter hours flown, and the corresponding customer last name, first name, area code, and phone number”. Your answer should include both the SQL statement for view creating along with the contents of the view (you get the contents of the view by select \* from ATL-CHARTERS\_V).

**Solution:**

*drop view if exists ATL\_CHARTERS\_V;*

*create view ATL\_CHARTERS\_V as*

*select CHAR\_DATE, CHAR\_HOURS\_FLOWN, CUS\_LNAME, CUS\_FNAME, CUS\_AREACODE, CUS\_PHONE*

*from (select \* from charter ch natural join ac\_customer ac*

*where (ch.CUS\_CODE = ac.CUS\_CODE) and (CHAR\_DESTINATION = 'ATL')) T;*

*select \* from ATL\_CHARTERS\_V;*

1. (4 Points) Modify the MODEL table to add the following attribute: (Note: use ALTER TABLE and UPDATE commands for this question.)

|  |  |  |
| --- | --- | --- |
| **Attribute name** | **Attribute Description** | **Attribute type** |
| MOD\_LIFT\_ WEIGHT | Amount of weight each model can lift | Numeric |

**Solution:**

*alter table model*

*add column MOD\_LIFT\_WETGHT numeric(10,2)*

*after MOD\_CHG\_MILE;*

Once the attribute has been added, update the values of all rows as per following values:

|  |
| --- |
| **Attribute values for MOD\_LIFT\_WEIGHT** |
| 10,000 for Mod\_code = DC-90A |
| 5,000 for Mod\_code = MA23-250 |
| 20,000 for Mod\_code = PA31-950 |

**Solution:**

*update model set MOD\_LIFT\_WETGHT = 10000 where MOD\_CODE = 'DC-90A';*

*update model set MOD\_LIFT\_WETGHT = 5000 where MOD\_CODE = 'MA23-250';*

*update model set MOD\_LIFT\_WETGHT = 20000 where MOD\_CODE = 'PA31-950';*

*select \* from model;*

1. (4 Points) Create a trigger named trg\_charter\_hours that will automatically update the AIRCRAFT table after a new CHARTER row is added. Use the CHARTER table’s CHAR\_HOURS\_FLOWN to update the AIRCRAFT table’s AC\_TTAF, AC\_TTEL, and AC\_TTER values.

The meaning for the AIRCRAFT table columns are as follows:

**AC\_TTAF:** Total time on the air frame

**AC\_TTEL:** Total time on the left engine (Also used to record single engine hours) **AC\_TTER:** Total time on the right engine.

So in the trigger, you need to increase all of them with value of CHAR\_HOURS\_FLOWN

**Solution:**

*drop trigger if exists trg\_charter\_hours;*

*delimiter $$*

*create trigger trg\_charter\_hours*

*after insert on charter*

*for each row*

*begin*

*update aircraft set AC\_TTAF = (AC\_TTAF + new.CHAR\_HOURS\_FLOWN),*

*AC\_TTEL = (AC\_TTEL + new.CHAR\_HOURS\_FLOWN), AC\_TTER = (AC\_TTER + new.CHAR\_HOURS\_FLOWN)*

*where AC\_NUMBER = new.AC\_NUMBER;*

*end $$*

*delimiter ;*

*insert into charter(CHAR\_TRIP, CHAR\_DATE, AC\_NUMBER, CHAR\_DESTINATION,*

*CHAR\_DISTANCE, CHAR\_HOURS\_FLOWN, CHAR\_HOURS\_WAIT, CHAR\_TOT\_CHG, CHAR\_OIL\_QTS, CUS\_CODE)*

*VALUES(10019,'2008-02-05','2289L','ATL',936,10,2.2,354.1,1,10011);*

1. (4 Points) Create a trigger named trg\_cust\_balance that will automatically update the AC\_CUSTOMER table’s CUS\_BALANCE before a new CHARTER row is added. Use the CHARTER table’s CHAR\_TOT\_CHG as the update source (Assume that all charter charges are charged to the customer balance.) In addition to the CHAR\_TOT\_CHG, add $25 for every quart of oil used on the charter.

**Solution:**

*drop trigger if exists trg\_cust\_balance;*

*delimiter $$*

*create trigger trg\_cust\_balance*

*before insert on charter*

*for each row*

*begin*

*update ac\_customer set CUS\_BALANCE = (CUS\_BALANCE + (new.CHAR\_TOT\_CHG + new.CHAR\_OIL\_QTS\*25))*

*where CUS\_CODE = new.CUS\_CODE;*

*end $$*

*delimiter ;*

*insert into charter(CHAR\_TRIP, CHAR\_DATE, AC\_NUMBER, CHAR\_DESTINATION,*

*CHAR\_DISTANCE, CHAR\_HOURS\_FLOWN, CHAR\_HOURS\_WAIT, CHAR\_TOT\_CHG, CHAR\_OIL\_QTS, CUS\_CODE)*

*VALUES(10022,'2008-02-05','2289L','ATL',936,10,2.2,100,2,10011);*

1. (4 Points) Create a stored procedure to update model charge per mile attribute. Procedure takes the model number as a parameter. The procedure increases the charge for this model by 25%.

**Solution:**

*drop procedure if exists prc\_update\_model\_charge\_mile;*

*delimiter $$*

*create procedure prc\_update\_model\_charge\_mile(in modelCode varchar(20))*

*begin*

*update model set MOD\_CHG\_MILE = (MOD\_CHG\_MILE + MOD\_CHG\_MILE\*0.25) where MOD\_CODE = modelCode;*

*end $$*

*delimiter ;*

*call prc\_update\_model\_charge\_mile('DC-90A');*

1. (4 Points) Create a stored procedure that will take an Employee number and percentage, then update the corresponding employee’s hourly salary by the input percentage (increase the hourly salary, so you are giving the employee a raise).

**Hint**: A*lter Employee table to add the hourly\_salary field, update it with a value of 30 for all rows in the table, before creating the procedure.*

**Solution:**

*alter table employee*

*add column HOUR\_SALARY double*

*not null default 30*

*after EMP\_HIRE\_DATE;*

*drop procedure if exists prc\_raise\_emp\_salary;*

*delimiter $$*

*create procedure prc\_raise\_emp\_salary(in empNum int, in perc double)*

*begin*

*update employee set HOUR\_SALARY = (HOUR\_SALARY + HOUR\_SALARY\*perc) where EMP\_NUM = empNum;*

*end $$*

*delimiter ;*

*call prc\_raise\_emp\_salary(100, 0.2);*