**Spring 2024 Project 2 - Database Programming**

**Deliverables**

1. The source code of your program that can interact with MySQL.

2. The output of your program (text file and screenshot).

**Write the program**

Use your localhost in MySQL as the server.

Open your MySQL. In the schemas area, right click to create a schema name it anything you prefer (here we use ‘project2’), and then double click on “project2” to make it a default DB to be used.

Remember the database is called “project2” or anything you named it. Use username(root) and password you created to login. Modify the database name, user name and password in the code template.

**There are five tables in the database “project2”:**

publishers(pubID, pname, email, phone)

subjects(subID,sName)

authors(auID, aName, email, phone)

titles(titleID, title, pubID, subID, pubDate,cover,price)

titleauthors(titleID, auID, importance)

Create tables ‘publishers’, ‘subjects’, ‘authors’, ‘titles’ and ‘titleauthors.’ See below for attribute names and data types.

**Add the following data into your tables.**

INSERT INTO SUBJECTS VALUES ('ORA','ORACLE DATABASE');

INSERT INTO SUBJECTS VALUES ('JAVA','JAVA LANGUAGE');

INSERT INTO SUBJECTS VALUES ('JEE','JAVA ENTEPRISE EDITION');

INSERT INTO SUBJECTS VALUES ('VB','VISUAL BASIC.NET');

INSERT INTO SUBJECTS VALUES ('ASP','ASP.NET');

INSERT INTO PUBLISHERS VALUES (1,'WILLEY','WDT@VSNL.NET','9112326087');

INSERT INTO PUBLISHERS VALUES (2,'WROX','INFO@WROX.COM',NULL);

INSERT INTO PUBLISHERS VALUES (3,'TATA MCGRAW-HILL','FEEDBACK@TATAMCGRAWHILL.COM','9133333322');

INSERT INTO PUBLISHERS VALUES (4,'TECHMEDIA','BOOKS@TECHMEDIA.COM','9133257660');

INSERT INTO AUTHORS VALUES (101, 'HERBERT SCHILD','HERBERT@YAHOO.COM', '2137823450');

INSERT INTO AUTHORS VALUES (102, 'JAMES GOODWILL','GOODWILL@HOTMAIL.COM', '9095871243');

INSERT INTO AUTHORS VALUES (103, 'DAVAID HUNTER','HUNTER@HOTMAIL.COM', '9094235581');

INSERT INTO AUTHORS VALUES (104, 'STEPHEN WALTHER','WALTHER@GMAIL.COM', '2138773902');

INSERT INTO AUTHORS VALUES (105, 'KEVIN LONEY','LONEY@ORACLE.COM', '9493423410');

INSERT INTO AUTHORS VALUES (106, 'ED. ROMANS', 'ROMANS@THESERVERSIDE.COM', '9495012201');

INSERT INTO TITLES VALUES (1001,'ASP.NET UNLEASHED',4,'ASP','2002-04-02','HARD COVER',540);

INSERT INTO TITLES VALUES (1002,'ORACLE10G COMP. REF.',3,'ORA','2005-05-01','PAPER BACK',575);

INSERT INTO TITLES VALUES (1003,'MASTERING EJB',1,'JEE','2005-02-03','PAPER BACK',475);

INSERT INTO TITLES VALUES (1004,'JAVA COMP. REF',3,'JAVA','2005-04-03','PAPER BACK',499);

INSERT INTO TITLES VALUES (1005,'PRO. VB.NET',2,'VB','2005-06-15',HARD COVER,450);

INSERT INTO TITLES VALUES (1006,'INTRO. VB.NET',2,'VB','2002-12-02','PAPER BACK',425);

INSERT INTO TITLEAUTHORS VALUES (1001,104,1);

INSERT INTO TITLEAUTHORS VALUES (1002,105,1);

INSERT INTO TITLEAUTHORS VALUES (1003,106,1);

INSERT INTO TITLEAUTHORS VALUES (1004,103,1);

INSERT INTO TITLEAUTHORS VALUES (1005,103,1);

INSERT INTO TITLEAUTHORS VALUES (1005,102,2);

**Write a program in python to run the following functions in order:**

**1.** In table “Titles”, there is already some data: the ID for each title, their names, etc. Your program should print out all the data in this table.

Example Outputs:

Output from Titles table:

(1001, 'ASP.NET UNLEASHED', 4, 'ASP', datetime.date(2002, 4, 2), 'HARD COVER', 513)

(1002, 'ORACLE10G COMP. REF.', 3, 'ORA', datetime.date(2005, 5, 1), 'PAPER BACK', 661)

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**2.** Create a table customer (custID, custName, zip, city, state).

**3.** Insert 5 customers (‘ABRAHAM SILBERSCHATZ’, ' HENRY KORTH ', 'CALVIN HARRIS', 'MARTIN GARRIX' and ' JAMES GOODWILL'.) into table “customer” with the custID, custName, zip, city and state. If you want to execute your program multiple times and don’t want to see errors of trying to insert duplicate entries, you may use “INSERT IGNORE INTO” statement, which will do nothing if there is already the same entry in the table.

**4.** Find the publisher who has published the most titles. If 2 or more publishers are tied for the most number of titles, then your program should print all of them.

**5.** List all the authors and the total price of their published titles, in order of greatest to least total price. If an author has no published titles, they do not need to be listed.

**6. Find the names of all titles which have more than 1 author who wrote it.**

**7.** Find the names of all publishers who have published a book with a price below $500, with a cover type of “Paper Back”.

**8.** Write a query to retrieve the names of all authors who have written books whose subjects contain the word “JAVA”, but have not written any books on the subject “VISUAL BASIC.NET”.

**9.** Write a query to retrieve the names of all publishers whose email addresses contains the domain “.com”.

**10.** Form a query to decrease the price of all books published before 2003 by 5% and increase the price of all books published after 2004 by 15%.

Save your outputs to a text file using the name “output.txt”, a screenshot of your output, and then archive with your source code.