



Experiment One

MySQL database

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First Section-Build tables

After building a database, we need to create six tables to store the data given by the document lab1. I use PyCharm to finish this. I take Figure 1 as an example for the set up of the six tables is quite similar. Figure 1 is table “papers” including columns whose name are “PaperID”, “Title”, “PaperPublishYear” and “ConferenceID”. First in row 1 we import the library pymysql which can operate on MySQL. Then in row 3 to row 8 I connect the database I built before by using function connect. The function’s parameter contains “host” and “port” to IP, “user” to user name, “passwd” to password, “db” to the name of the database, “charset” to transformation format. In row 10 I create a cursor and in row 11 to row 19 I transfer the command to MySQL by using function execute. Finally, in row 21 I commit the code to MySQL by using function commit.

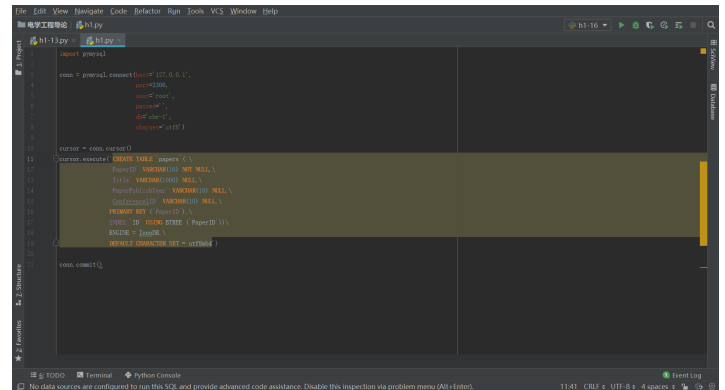


Figure 1: set up a table.

Next step we need to insert data from the given file to the table. We take “papers” for an example, its code is in Figure 2. First in row 1 I import python library pymysql. Next in row3 and row 4 I insert data from the file to python. In row 6 I divide the long text into separate parts and each part has one message. Then from row 8 to row 13 I connect the database like Figure 1. Row 15 create the cursor and from row 16 to row 21, commit 1000 parts a time to the MySQL in case one upload is so large that the compiler is overloaded. In row 22 and 23, submit the remaining parts.

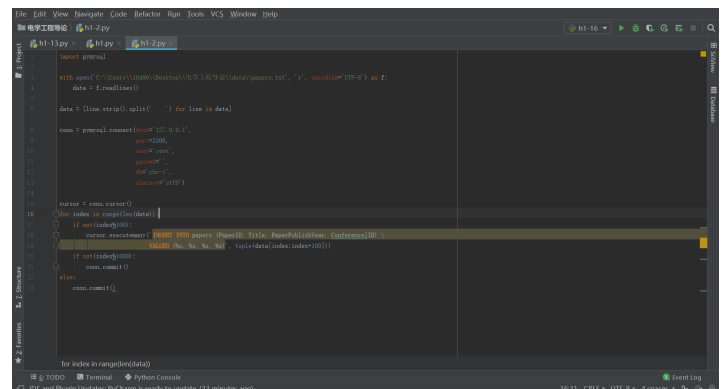


Figure 2: insert data into the table.

Second Section-Solve problems

Problem 1

I use statement SQL SELECT to return title and publish year of the given paper id. Its parameter “SELECT” with the columns “PaperID”, “Title” and “PaperPublishYear” that you need to return. Parameter “FROM” with the table’s name “papers”. Parameter “WHERE” with your limit “PaperID=(the paper’s id you want to look up)”.

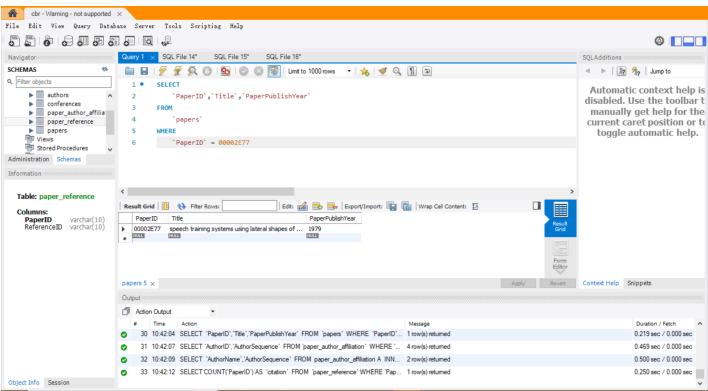


Figure 3: Problem 1.

Problem 2

I use statement SQL SELECT to return author’s id by sequence of the paper. Its parameter “SELECT” with the columns “AuthorID” and “AuthorSequence” that you need to return. Parameter “FROM” with the table’s name “paper_author_affiliation”. Parameter “WHERE” with your limit “PaperID=(the paper’s id you want to look up)”. Parameter “ORDER BY” with the order “AuthorSequence”.

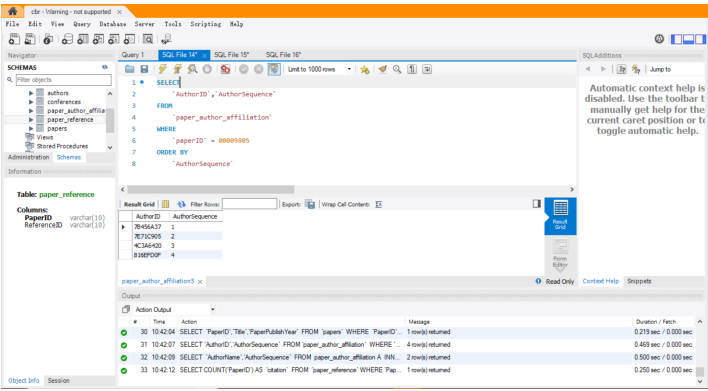


Figure 4: Problem 2.

Problem 3

I use statement SQL SELECT to return author’s name by sequence of the paper. It need information from two tables, so I use inner join. Its parameter “SELECT” with the columns “AuthorName” and “AuthorSequence” that you need to return. Parameter “FROM” with the needed two tables’ name “paper_author_affiliation” and “authors” and its join column “authorID”. Parameter “WHERE” with your limit “PaperID=(the paper’s id you want to look up)”. Parameter “ORDER BY” with the order “AuthorSequence”.

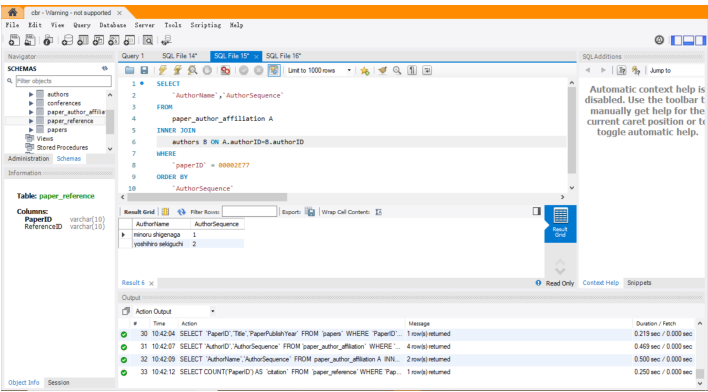


Figure 5: Problem 3.

Problem 4

I use statement SQL SELECT COUNT to return title and publish year of the given paper id. Its parameter “SELECT COUNT” with the column “PaperID” that you need to count. Parameter “AS” with the column name that you need to return. Parameter “FROM” with the table’s name “paper_reference”. Parameter “WHERE” with your limit “PaperID=(the paper’s id you want to look up)”.

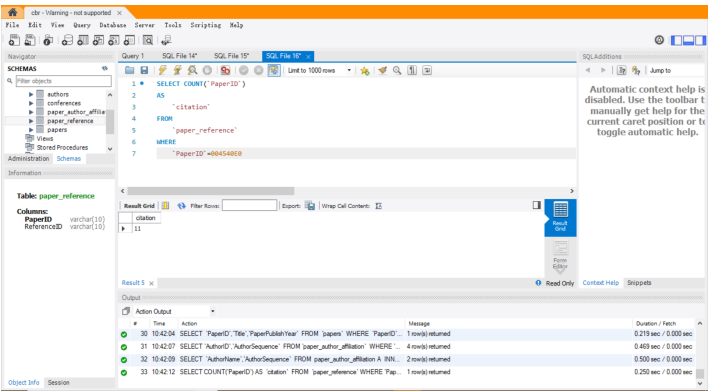


Figure 6: Problem 4.