ES – 302

Introduction to Python and Scientific Computing

Python + SQLite Database Management System Documentation

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Abstract:

Our project for the course ES-302 Introduction to Python and Scientific Computing was based on the use of SQLite database management system to create a simple database management software in python. This documentation provides an API (Application Program Interface) for the further development of this code.

General Structure:

The code uses sqlite3 library to navigate through the database. It then uses various python functions and operates on the given database. For a beginning, our code performs various simple functions like creating a table, adding entries in it, modifying the entries, viewing the entries and removing the entries.

Functions Defined:

Apart from the general inbuilt functions of python, given code uses the following user defined functions-

- createtable() : The function creates a table with the necessary attributes such as Roll No, Name, Age, Branch and email id of individuals.
- droptable(): This function deletes the table created using the above function.
- isNum(): Checks whether the input provided by the user is a number or not. Returns 'invalid' if the user input is not a number and returns '' (blank) if the input is a number.
- isString(): Checks whether the input provided by the user is a string or not. Returns 'invalid' if the user input is not a string and returns '' (blank) if the input is a string.
- insertdata(): Inserts data in the table formed by the createtable function by giving necessary instructions to the user. This function also keeps a check on the type of data entered in a given field.
- displayrow(): This function helps the user to search the data through different attributes. Helps user to pin pointedly search the required entries according to their requirements.
- displayalldata(): This function displays all the data stored in the generated table.
- deleterow(): Asks user for the attribute and its range through which he would like to delete a particular entry from the table and deletes it.
- ordertable(): Sorts the table contents through the attributes given by the user.
- update(): This functions helps user to update the data given earlier under a roll number. All the attributes for a roll number (primary attribute) can be changed using this function.