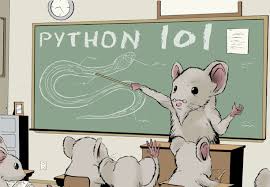
Python intro

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Version 1.1

#### *Assignments 7 – Modules and file I/O*

Task7.1

7.1 create a script that does the following statements in order:

* Print the current working directory
* Switch to another directory preferably another drive on your computer
* List all the content of this directory
* Create a new folder here named “new folder for python”
* Change the current working directory to the new folder for python
* Create another directory here name it “my second folder”
* Try to remove the current working directory
* Go to the parent folder
* Try to remove “my second folder” from here

Deliver the source code and screenshot of your execution

Text

Description automatically generated

7.2 create a script that prints the current date and the time on your screen. Deliver the source code and screenshot of your execution.

Text

Description automatically generated

7.3 create a script to show the content of your Download directory. Deliver the source code and screenshot of your execution.

Graphical user interface, application

Description automatically generated

Task7.2

7.2.1 Write a program that create a new directory named “task 7.2.1” and a file in it named “random.txt”. ask user to enter an integer number. Your program must generate the same number of random values and placed them the txt fie on the same line with a space in between.

7.2.2 write a program which read the random.txt file and generates another file named “random2.txt”. it must copy the content of the first file to the second but display each number in a new line.

7.2.3 write a program that asks user to add enter a name and store it in a text file. The program must keep asking until user enter an empty name.

7.2.4 improve the Person class from assignment 6.1. person class needs to keep track of all the object created from this class by a simple log.txt file. This file will contain the first and last name of the object in a separate line and every time the name is updated using functions, the log file needs to update by the new values. For example, the content of the log file after creating 3 objects must be:

1: Mikaeil Shaghelani

2: Andrius Kuprys

3: Vladimir Kabzar

#### *Assignments 8 – SQLite database*

For this week assignments we are going to create a database named appDB.db using SQLite library.

Installing SQLite is simple: .

1. Download the latest version from the [official website](https://www.sqlite.org/index.html).
2. Create a new folder e.g., C:\sqlite.
3. Extract the content of the file that you downloaded from website to the C:\sqlite folder.
4. Add C:\>sqlite in your PATH environment variable and finally go to the command prompt and issue sqlite3 command to start the program

Install SQLite extension in Visual code. This extension will help you to see the database content and query it easily.

A screenshot of a cell phone

Description automatically generated

Task8.1 create Person table

8.1.1 create a script name DatabaseHelper.py with following functionalities:

* db object: a connection object to database. Name your database file appDB.db
* createPersonTable method: a method to create the Person table if it doesn’t exist.
* CRUD methods for user: create 4 methods to Create, Read, Update and Delete a user record in the user table
* getAllUser methods: a method to display the content of user table
* addTestData method: to add fake testing data to user table

8.1.2 create a script name myToDoApp.py and do the following steps in order:

* Import db object and the methods from DatabaseHelper.py
* Call the createPersonTable method of the db object to create the table
* Call the addTestData method to fill the table with fake data

8.1.3

Improve the myToDoApp by letting user to interact with database. Create a while loop an ask user which operation they want to perform and then get the required data to make the call to the right method. For example this can be a possible output of your loop:

What operation do you want to perform (C to create, R for read, U for update, D for Delete of a user and Q to quit): C

What is the user’s name? Mikaeil

What is the age? 20

User has been successfully added

What operation do you want to perform (C to create, R for read, U for update, D for Delete of a user and Q to quit): Q

Task8.2 create ToDo table

8.2.1 improve DatabaseHelper.py script :

* createToDoTable method: a method to create the ToDo table if it doesn’t exist.
* CRUD methods for todo: create 4 methods to Create, Read, Update and Delete a todo record in the ToDo table
* getAllToDo method: a method to display the content of ToDo table
* addTestData Method: to add fake testing data to ToDo table

8.2.2 improve myToDoApp.py that does the following statements in order:

* Call the createToDoTable method of the db object to create ToDo table
* Call the addTestData method to fill the table with fake data

Task8.3 Connect the Person Class to database

8.3 improve the Person class from assignment 6.4(includes the todo object) by connecting it to appDB.db.

1. Import the db object and the methods from DatabaseHelper
2. On creation of every Person object add it to database
3. Create a method updatePerson and make sure any update of the user will be recorded in database
4. Create a method deletePerson and make delete the user record from database
5. Create a method getPersonData and display the current person information in fancy format.
6. Create a method getPersonJson and display the current person information in JSON format.
7. Create CRUD functions for Person’s todo that records persons todo in the database

Test your Person class by creating an object in terminal and call the methods. Make sure your methods are displaying the required information on command-line.

#### *Assignments 9 – tkinter GUI*

Task9.1 create a calculator GUI

9.1.1 create a GUI app using Tkinter for a calculator with 4 basic mathematical functionalities. Your GUI must look like this:

A picture containing furniture, light, sitting, white

Description automatically generated

9.1.2 Import Calculator class from assignment 6.2 and create an object from it. Replace functions you created in the previous tasks (9.1.1) with calculator’s object call. Modify your code to make it functional.

Task9.2 create a To-do app

create a GUI app for your Todo list by importing the latest Person class (from task 8.3) and make a GUI to CRUD person and its todo list. Design the GUI as you see fitting.