

Introduction to programming-python

Lab Practice 07: Lists

The objective of this practice is to consolidate the student's skills in using lists.

Program 1: Clients of a bank

Write a program for the management of a bank clients' accounts. Each client is identified by a code number (*int*). All the clients' codes are stored into a list of integers, *codes*. Similarly, the clients' balances are stored into another list, *balances*, real numbers.

The main program will read the number of clients and then we will read and store the information of the codes and the balances in lists *codes* and *balances*. All the data should be validated.

Then, the program will display a menu:

1. Operation: To deposit or take out money
2. Search clients
3. Display information stored in codes and balances lists
4. Exit

The menu is repeatedly displayed until the program is exited. For every menu option we can do the following:

Operation: The program displays 2 options: 1. withdraw money, and 2. Deposit money. For any option the client code for the operation is read from the keyboard.

In option 1, the amount of money to be withdrawn is read from the keyboard and the client's balance is updated. A message is displayed indicating the operation, the amount withdrawn and the final balance.

Warning: it has to be checked that it is possible to withdraw the amount of money required.

In option 2, the amount of money for the deposit is read from the keyboard and the client's balance is updated (adding this amount). A message is displayed indicating the operation and the final balance.

Search: We ask the limit amount of money and the client codes of the clients with balances over that limit will be stored into another list, *wealthy*. Then the program displays the client codes stored in *wealthy*.

Display information: The program will display the values stored in lists *codes* and *balances*.

Program 2: Grades of student

Write a program to calculate the average grade, the maximum and the minimum grade of a course ("python").

Declare a list to save the names of the student and the list of grades of the course for each student. The program will read from the keyboard the names and grades of that student.

Then, a menu will be displayed with the following options:

- a) Calculate the average grade of the students.
- b) Find the maximum grade.
- c) Find the minimum grade.
- d) Exit