***BE 1600***

***Introduction to***

***Programming and Computation***

***Python Lab***

**Lab 11**

20 points

**Due by the end of the lab session**

Assignment Objectives:

* To use text files to store large data sets
* To open a file, read/write data from/to a file

*Solution for this lab will not be posted on Canvas; however, the solution of any of the lab problems can be discussed in the class upon request of a student.*

All labs must be submitted by the Canvas. **No email or hard copy** is accepted. You must follow the following format:

1. Submit your file to the Canvas. You must submit your file on time; otherwise, you will receive zero.
2. You can upload your file as many times as you like. Only the last attempt counts because the last file you uploaded is the only file your instructor will see.
3. There will be several modules on the Canvas. You need to upload your file using the correct module on the Canvas.
4. Name the file: *Lab (lab\_ number)*
5. To upload your file(s):

* In Course Navigation, click the ASSIGNMENTS module.
* Click the title of the assignment.
* Click the **Submit** Assignment button.
* Add **File**. ...
* **Submit** Assignment. ...
* View **Submission**.

*It is your responsibility to make sure that the file is uploaded correctly. If you uploaded a wrong file, you receive zero; files will not be accepted after due date even if you have a prove that the file is created before the due date.*

***Make sure you review the Cheating & Plagiarism policy on Canvas.***

The local driver’s license office has asked you to create an application that grades the written portion of the driver’s license exam. The exam has 10 multiple-choice questions. Here are the correct answers:

1. B 2. D 3. A 4. A 5. C 6. A 7. B 8. A 9. C 10. D

Your program should store these correct answers in a list. The program should read the student’s answers for each of the 10 questions from a text file (student\_solution.txt) and store the correct answers in another list. After the student’s answers have been read from the file, the program should print to a file (test\_result.txt) a message indicating whether the student passed or failed the exam. (A student must correctly answer 7 of the 10 questions to pass the exam.) It should then display the total number of correctly answered questions, the total number of incorrectly answered questions, a list showing the question numbers of the correctly answered questions, and a list showing the question numbers of the incorrectly answered questions.

Here are sample runs:

|  |  |
| --- | --- |
| ***Student\_solution.txt***  B  B  C  A  A  B  C  D  C  D | ***Test\_result.txt***  Sorry, you did not pass the exam  You answered 4 questions correctly and 6 questions incorrectly  The numbers of the questions you answered correctly are: 1 4 9 10  The numbers of the questions you answered incorrectly are: 2 3 5 6 7 8 |

|  |  |
| --- | --- |
| ***Student\_solution.txt***  B  D  A  A  B  B  B  A  C  D | ***Test\_result.txt***  Congratulations!! You passed the exam  You answered 8 questions correctly and 2 questions incorrectly  The numbers of the questions you answered correctly are: 1 2 3 4 7 8 9 10  The numbers of the questions you answered incorrectly are: 5 6 |