Basic Anaysis: Uploaded to Moodle on or before Sunday 15/11/2020

In Part 2 of the Assignment, you must read in the data from the file(s), analyse the data (number of values, maximum, minimum, mean, median, mode and standard deviation of one variable) and display the results.

Important: In this part, you may only use the following Python Features

- Section 1: Fundamentals (input, formatted output, basic string processing, calculations, the `math` module)
- Section 2: Control Structures (if-elif-else, while and for)
- Section 3: Data Structures 1 – Lists, Tuples and Sets, List Comprehensions
- Section 4: File Processing and Exceptions

Do *not* use functions, classes, the `csv` module or any other features.

1. A second completed Student Plagiarism Disclaimer Form: printed, signed and uploaded.
2. Details of the analysis you performed and the results achieved. Include output screenshots along with appropriate descriptions.
3. Your Python Program files (Using Python 3) and any associated files (e.g. data files). Include appropriate comments, including an initial file comment containing your Student ID. You should use Exception Handling wherever it is appropriate in your code.
4. A brief "User Manual" which provides a guide to a non-technical user how to use the program. Ideally this program will be interactive, allowing the user to choose what analysis to perform. Include output screenshots with appropriate descriptions.
5. A Reflective Learning Log* which provides your reflections for this stage of the assignment.
6. Detailed references to other sources used in this part of your assignment.

Reflective Learning Log

You must complete an on-going Reflective Learning Log to describe in detail the progress and process of your assignment and what learning you have gained from it. Each time you work on your assignment, you should describe in detail what you have done, what you have learned/understood, and what you are going to do next. Include references to other sources of information if you have used them.

https://www.ivoryresearch.com/library/other-articles/reflective-logs-and-reflective-diaries/

Marking Scheme (out of 100 marks)

	Component	**Mark**
Report*1	*Maximum mark*	30
	Analysis and Results	*10*
	User Manual	*10*
	Reflective Learning Log	*10*
	References	5
Program*2	*Maximum mark*	70
	Basic Analysis: number of values (records), maximum, minimum, mean, median, mode and standard deviation of one variable	*40*
	Exception Handling*3 wherever required	*10*
	Pre-processing of Data (using permitted Python features)*4	*10*
	Interactive Menu	*5*
	File Output (e.g. store the results)	*5*
	Additional Analysis*5	*20*

Notes:

1. Report: See the original document outlining the details of the Assignment.
2. Program: Appropriate comments must be included, specifically, an initial comment for the program file(s) describing the purpose of the program, as well as comments for each major section of the program and any other (unusual/interesting/special) code that you feel requires it. You do not need to comment every line of code.
3. Exception Handling: e.g. opening a file, splitting a line, getting user input, storing the results in a file.
4. Pre-processing of Data: Includes combining data from different files, dealing with missing values. Must be done using the Python features permitted for this section.
5. Additional Analysis: If you wish, you may analyse the data using additional techniques, not taught in this course. You must include appropriate references.