



EE202: Object-Oriented Programming

ECE department- KAU

Assignment # 1

Implementation of Simple application to read and write data from/to files



In this assignment, you need to setup the development environment for 1) C programming language, and 2) Python programming language. After that you need to develop a simple application that do the following tasks:

#	Name	Age	weight
1	Joel Hunter	57	52
2	Cody Johnson	21	74
3	Thomas Lewis	52	49
4	Willie Ochoa	41	87
5	Samuel Davis	38	63
6	Raymond Nichols	27	55
7	Matthew Bentley	63	90
8	Brian Davis	18	89
9	Jose Williams	16	94
10	Edward Avila	62	80

1. read the tabular data similar to the table above from the CSV file in the [Link](#) and print its content as raw string. Remember, you need to open the file, read the data, and then close the file.
2. Do not use any library or package for CSV files reading or handling. Use your own code.
3. Compute the minimum, maximum, and average age of the listed people in the file. Remember, you need to convert the raw string that you read from the file into proper data format as needed.
4. Try to model the raw data into objects (persons), where each person has an ID, name, age, and weight. Then write the code to load the data from the file into an array or list of persons.
5. Compare the difficulty of modeling between C and Python in one paragraph.

Development Environment Preparation:

To start with Python, you just need to make sure that you have Python interpreter installed in your system. Python is preinstalled in most Linux systems. For Windows 64-bits you can download it from the [Python.org](https://python.org). Make sure that you add Python bin directory to the system PATH (environment variable) so that you can access Python from the windows power shell terminal or the console terminal.

To start with C you need to install the C toolchain (compiler and other tools) for your system, we suggest using gcc toolchain.

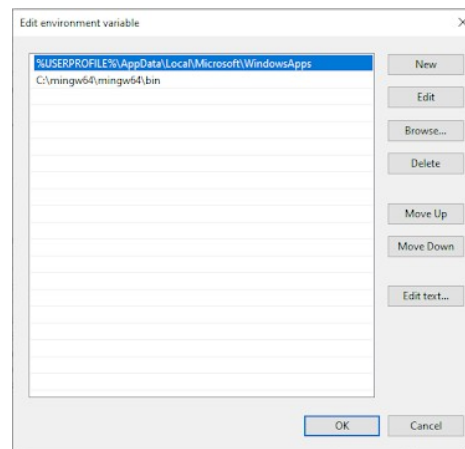
- For Ubuntu Linux just run the following commands from the terminal:

```
sudo apt update
```

```
sudo apt install build-essential
```

- For Windows 64-bits please follow the instructions below:
 1. Download (**mingw64**) from the link: [Download Link](#)
 2. Uncompress the folder in the C: directory
 3. Add the following path to the PATH environment variable:

C:\mingw64\mingw64\bin



Deliverable:

You need to submit all source files C and Python. In addition, you need to write a detailed report explaining your design choices and decisions. The report should show your hidden efforts in producing a good design. The report should be word-processed according to the presentation of the technical work checklist (PTWC) that you are familiar with from the design courses IE201 and IE202. The report should also have a table that summarizes the work that each team member has done in details, with one column for his amount of work as a percentage.

Submission:

You need to submit your work to the course website before the deadline. The submission should include the report file (as a Google document or a pdf file). The report file must include a filled out version of the self assessment rubric shown in the attached page below. Finally, Please upload the files individually and do not archive them in a single compressed or tar file.

Self Assessment Rubric

		Mark out of 10
Report	Well Formatted according to PTW checklist	
	Spelling and grammar checked	
	Clear Writing Style	
	Includes detailed problem statement, project objectives, and impact	
	Effective use of illustrative figures and tables	
	The report covers all aspects of the project/assignment, including pictures and diagrams of the implementation	
	Includes detailed justifications for all design choices	
	Reflects on learned lessons and failed experiments	
	Use of References	
Implementation	Code is Working as Expected	
	Meets all the requirements	
	Extra Features	
	The code is readable and meet good coding standards	