



**VNU – HCMC UNIVERSITY OF SCIENCE
FACULTY OF INFORMATION
TECHNOLOGY**



PROJECT REPORT 1: MOCK STUDENT DATA GENERATOR

Instructor guide: Tran Duy Quang

Students:

- **Nguyen Nhat Truong – 20120229**
- **Ngo Nguyen Quang Tu – 20120234**

Class: OOP 20_3

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I/ GROUP INFORMATION:

1. Students infomation:

Full name	ID
Nguyen Nhat Truong	20120229
Ngo Nguyen Quang Tu	20120234

II/ ASSESSMENT OF COMPLIANCES:

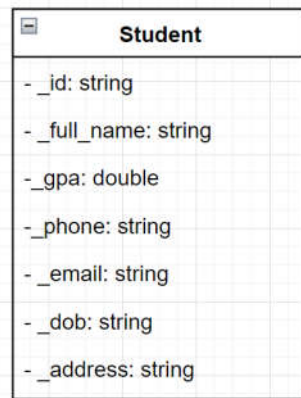
Complete 100% of the requirements of the project.

III/ PROJECT:

1. Main Target:

- Create Simple Classes (File.h, Rand_Student.h, Student.h ,...)
- Practice On Handling Data Stream By tuple<classs T1,class T2,..> (when reading & writing file .txt)
- Using rand() Function To Generate Data Randomly (for every each student's infor)
- Read A File In JSON Format (for address random generator)
- Validate Check: Indicate The **Error Line** Position In Text If Wrongly Formatted (bonus function)
- Sort A Vector And Save As A Ranked List In .csv Format (bonus function)

2. Class diagram:



3. Working Progress:

After project, we both appreciate our experience on our team-working time which we are so grateful for and proud of ourselves. We are on 200% of our ability way to have accomplished one as soon as possible. Hence, all requirements described in [Project Instruction](#) are completely met.

Basic Requirements	Done Status
Read all students saved in the file "students.txt" back into a vector of Student	Yes
Generate randomly a number n in the range of [5, 10]	Yes
Generate randomly n Students and add to the previous vector	Yes
Overwrite and save and the students in the current vector back to the file "students.txt"	Yes
Print out the average GPA of all students	Yes
Print out all the students that have a GPA greater than the average GPA	Yes

Bonus Functions

Not only building the essential-coded function, we also add an [external lib](#) to help make a better random for [addresses](#) that are written in JSON format as well. In addition, there are some bonus functions to check the wrongly-formatted line in file **students.txt** (validate GPA, telephone, email, dob) then indicate where that line is through showing a message on console with line index. If program runs without no failure, based on their own GPA a .csv ranked list will be released demonstrating the TOP students sorted ASC with ranked order.

Sample Ranked List of T.O.P GPA Students:
rankings

ID	FULL NAME	GPA	RANKED
20120583	Luong Thoi Phuoc	9.990000	#1
20120608	Bui Huu Minh	9.520000	#2
2127832	Nguyen Dieu Linh	9.220000	#3
20120993	Luong Ngo Phuoc	8.360000	#4
2127833	Ngo Thoi Chanh	8.120000	#5
2127831	Tran Huu Minh	7.300000	#6
20120629	Duong Quang Minh	5.520000	#7
20120077	Bui Cam Linh	4.470000	#8

4. Install:

Open Terminal (MacOS) or CMD Shell (Windows), then go on command line described below:

- Change your direction path on Desktop/
cd Desktop/
- Fork the project, clone this fork in a repo called:
MockStudentDataGenerator
Git clone:
<https://github.com/SmilinOwls/MockStudentDataGenerator>
- Navigate to the newly cloned repo:
cd MockStudentDataGenerator/

5. Usage:

- Open file .exe in *Release* folder to run all functions to check whether all requirements are completely done

cd MockStudentDataGenerator/Release
open MockStudentDataGenerator.exe
- Then, a console application would be appearing to show all results. If you want to see any differences, just add/delete/change something you want in students.txt and run again for any interesting things you hope to show up

6. Run tests:

- Open file *students.txt* to make some mini tests on validating data with format:

```

• GPA valid:
Student: 2127832 - Nguyen Dieu Linh
GPA=9.2.2, Telephone=0912-351-718
Email=thminh@student.hcmus.edu.vn
DOB=23/09/2003
Address=22 Ngo Thoi Nhiem, Ward 2, District 1, Ho Chi Minh city

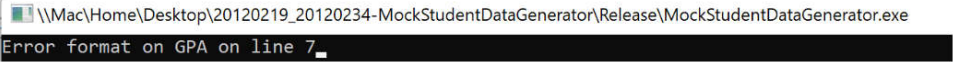
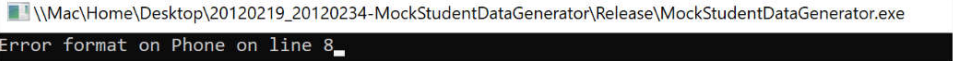
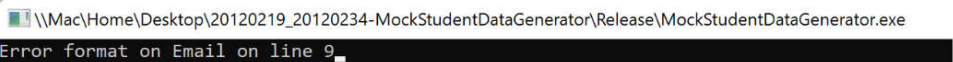
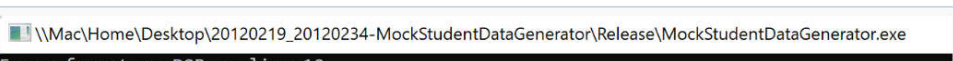
• Tel valid:
Student: 2127832 - Nguyen Dieu Linh
GPA=9.22, Telephone=091-2-351-718
Email=thminh@student.hcmus.edu.vn
DOB=23/09/2003
Address=22 Ngo Thoi Nhiem, Ward 2, District 1, Ho Chi Minh city

• Email valid:
Student: 2127832 - Nguyen Dieu Linh
GPA=9.22, Telephone=0912-351-718
Email=thminhstudent.hcmus.edu.vn
DOB=23/09/2003
Address=22 Ngo Thoi Nhiem, Ward 2, District 1, Ho Chi Minh city

• DOB valid:
Student: 2127832 - Nguyen Dieu Linh
GPA=9.22, Telephone=0912-351-718
Email=thminh@student.hcmus.edu.vn
DOB=123/09/2003
Address=22 Ngo Thoi Nhiem, Ward 2, District 1, Ho Chi Minh city

```

- Run every each of four above tests by running *MockStudentDataGenerator.exe* or by command line open *MockStudentDataGenerator.exe*
- Wait a second, here are the results all printed out on console to notice about the error format on each specified line, in particular:

Item	Specified Error Fomat Message
GPA	
Tel	
Email	
DOB	

7. Difficulty doing projects:

- The student's address part includes 3 components street, ward, district, so for random it to be objective, it needs to have a real data set.
- But each district has many wards, each ward has many streets, so the .txt file cannot be read normally, must reorganize the file.

THE END

