Arab Academy for Science and Technology and Maritime Transport

College of Computing and Information Technology

Course: Advanced Programming (CS244)

Lecturer: Dr. Omar Shalash

Teaching Assistant: Eng. Shaimaa Ahmed

Teaching Assistant: Eng. Abd EL-Rahman Solyman

Project

Each student should select a project unique and register his name along with the topic in the provided Google Form, the project can be a group of two students maximum.

After making sure that no other student before you in the list picked a related topic you can start to design and implement your project.

The project design must be based on an UML class diagram.

The project design structure should include:

1. **Inheritance**
2. **Aggregation and/or Composition**
3. **Interface**
4. **Polymorphism**
5. **Overloading and Overriding (at least one each)**
6. **Reading and writing data through files or Database**
7. **Multi-threading**
8. **Network model and communication protocol**

9. **User friendly GUI**

Each project UML class diagram will be graded based on Object Oriented design and functionality. The code must be written based on the java convention and comments must be included. The number of classes/interfaces per project must be 10 at least (FXML and controller classes are not counted).
projects topics examples:

- **Library System**
- **Train Ticketing System**
- **School Registration System**
- **Restaurant Reservation and Ordering System**
- **Pharmacy System**
- **Bank Queue System, etc**

Each student should implement the project using the submitted/corrected UML class diagram and email it to omar.o.shalash@aast.edu and TA. Shaimaa: shaimaaahmedm@gmail.com or TA. Abd EL-Rahman: abdelrhmansolyman@gmail.com (depending on your class), the email subject should "only" be [12th Assessment] Advanced Programming Applications - (CS244) - [ID] - [Name] Replace id and name with your own info , and any email without the above subject will be discarded and all remaining data can be provided in the email body.
The project design structure should include:

- **Project report**
- **Source code**

- Jar file for the full project

Your project report should include UML class diagram on the first section, second the project report, third a link of a recorded video showing a navigation for your code running and explaining its functionality (the recording should include your desktop and your voice, you can do this by: ShareX, Screencasting, etc.), you may also make a power point presentation and record audio over slide if you don't want to make a video, but include also run and code functionality. The end of your report should be all your code written class by class with comments included.

Category	Mark
Object-oriented design Interfaces and Polymorphism Overloading and Overriding	10
User friendly GUI and ease of use	3
Data Storage (files/database)	3
Multi-threading	3
Networking model and protocol	3
Comments and correct convention	5
report	1
Jar file	1
E-mail structure	1
Database JDBC	+5

Deadline for submission 17/5/2020, late submissions will not be accepted.

Avoid plagiarism, penalties will be executed for all participants including source.

Best of luck