

# Software Construction - Assignment - 2

## IMPORTANT TO READ

- This is a **group assignment**. A maximum of **six (6)** members per group is allowed. The submissions from groups with more than six members will be rejected. But it would be ok to have less than six members in a group.
- This is a time-consuming assignment. You will face a lot of challenges during the implementation. Therefore please **start working right now!**
- You can use any Object Oriented Programming language to implement the system (Java preferred).
- You should use the best coding practices when implementing the system.
- You should use a **GIT repository** to commit your code. You can use GitHub or bitbucket. Each member should commit his contribution to the repository. The code commits will be reviewed with the timestamps. Do not wait until the last moment to commit your code. Commit as and when you develop.
- Have an initial discussion (an online meeting would be fine) and discuss the requirement first and divide the work among group members before starting the coding.

Ex:

- One member can look into the report generation functionality
- One member can look into sending emails.
- Another member can configure the SQL database and write database-related code.
- One member can contribute to input/output handling.
- Another member can contribute to unit testing.
- Everybody should take the responsibility of maintaining the best coding practices such as SOLID principles.
- There will be an **online viva session** where each member has to explain the contribution. The viva schedule will be announced later.
- The deadline is the **02nd of October 2020**. No late submissions are allowed.
- **Copied assignments will get zero (0) marks.**

## Task:

The task is to create a **command-line report generation tool** for an **e-commerce system**. The users of this tool would be the managers of the e-commerce platform. Create a sample SQL database for this purpose and fill it with some dummy data related to the e-commerce system. Your database could contain the tables such as products, users, orders etc.

This tool should support generating different types of reports such as Monthly sales reports, User signups reports etc. Initial version of this tool should support at least one type of report. The end user should be able to provide the following inputs as Command line arguments.

1. Type of the report
2. The report time period (Start time and End time)
3. The method of receiving the output(Email/File)
4. Email address of the user

The tool should generate the requested report in Microsoft Excel format. If the user has selected the output method as Email, the tool should email the Excel report to the user, otherwise just saving it to an excel file in the disk would be enough.

### **SPECIAL NOTES:**

- You can use a free service like <https://www.mailgun.com/> to send emails.
- At least one type of report generation functionality should be implemented.
- Try to use the best coding practices as much as possible. Always think about the extensibility of the code when implementing this system.
- **You must write unit tests for your code.**

## How to submit

- Prepare a pdf document. The document should contain a section for each member of the group. Each member should specify the contribution made to the project. Also include the github repository link, git usernames of each member in the frontpage.
- No need to upload the source codes.
- The pdf document should be uploaded to CAL on or before the deadline. One submission from a group is required.

## Marking Criteria

Marks will be given based on the following points:

- Completeness of the functionalities
- Quality of your code and maintainability
- Unit testing coverage
- Your contribution