

Question 1:

Your university has arranged various guest lectures for students. Each student is only allowed to attend one guest lecture after paying its fees. Students can select their favorite lecture and complete the registration process on university's online website. The website is allowed to be accessed by authorized people only. The fees of guest lectures may vary and is displayed along with the lecture title along with the guest's name on the website. Moreover, every lecture has a separate eligibility criterion depending on the age and schedule (free slots) of student. After completing all verifications, the system generates an online ticket. Assume that the student is already registered (as a student) and thus does not need to sign up on the university's website.

- A) Draw sequence diagram for the given scenario.
- B) Draw collaboration diagram for the given scenario.

Question 2:

(a) Implement Singleton Design Pattern in Java as provided in this tutorial:

https://www.tutorialspoint.com/design_pattern/singleton_pattern.htm

Also, submit the screenshots of the output along with the code.

(b) Describe where in real world applications we can apply the singleton pattern. (One page summary in your own words. Do not copy from internet.)

Important Note:

1. Date assigned 04-12-2019. Last date of submission is **10-12-2021 11 AM sharp**.
2. Assignments will not be accepted after due date.
3. Students are required to submit the assignment individually.
4. Plagiarism, if detected, will result in zero marks.
5. Assignment must be submitted via slate. Only one submission is allowed.
6. Submit the assignment after making a single zip archive of the assignment files.
7. Folder hierarchy: MS Word document report in /doc folder, generated source code in /code folder (if any), all exported PNG diagrams in /dia folder and Papyrus models and project files in /model directory are required. (See the directory structure as shown in figure above). Use only Papyrus for modeling and submit the project files.
8. Archive the assignment and name it "FASTAssign03YourRollNo.zip"
9. Cover Page of Assignment document must contain: Student name, Roll no, Date of submission.
10. Do not submit assignment on 11th hour, always submit assignment 3-4 hours or one day earlier than deadline, if you do it on 11th hour, then due to connectivity issues you may not be able to submit the assignment on time.
11. Deadline will not extend.

