

Q1. This document is all about “Development of AHMES (Automatic Higher Mathematics Examination System) Using Rational Unified Process.” You have to read the attached document and write a summary in your own words, consisting of 300-350 words. **(3 marks)**. Submit this summary in the format of word document.

<https://www.hindawi.com/journals/mpe/2021/7952816/>

<https://downloads.hindawi.com/journals/mpe/2021/7952816.pdf>

Q2. Below given is the case study of “University Management”. Read this carefully and design a domain model diagram using eclipse / papyrus. Also clearly mention any assumptions made by you while designing diagram. **(5 marks)**. While submitting this question you will be judged on the following criteria:

1. There should be exported .png file of the diagram in /dia folder.
2. There should be proper report on word document in /doc folder (student name, id, image of diagram, all the relationships in domain model with their examples.)
3. Complete Eclipse/Papyrus models and project files in /model directory are required.

The system is a university management system and needs to keep track of people of different levels. The system has a class university, which has name, address, phone number. The university class has an aggregation relation with departments' class. Departments' class must include name (Computer science, Electrical engineering, business etc.). Departments' class has aggregation relation with staff class. The university class has association relation with person class. For each person, it records all his/her name which includes first name, middle name and last name, address, of which exactly one is designated as the mailing address (so a person must have at least one address and cannot be optional, it can also be more than one) which consists of country, province/state, city, street, street number. In addition to the list of addresses for each person it also records gender, age, date of birth and a cell phone number (at least one and can be more than one). The person class has generalization relation with students' class and staff class. Each student must have student id, name, B-form number, age, gender and date of birth. Student class has dependency relation with educational details class. The educational details class includes a degree name, department name, list of courses opted, semester no. and CGPA. The staff class must have joined date, CNIC number and certification. The staff class has a generalization relation with teaching staff class (head members and faculty members), administrative staff class (front desk, academic manager and receptionists) and working staff class (cleaning staff and technical staff). The teaching staff class has composition relation with faculty member class and head members class (director, HOD). The administrative staff class has composition relation with front desk class and academic manager class. Working staff class has composition relation with cleaning staff class and technical staff class.

Important Note:

1. Last date of submission is **Friday, 9th September 2022 – 11 AM**.
2. For any late submission (one week late) penalty will be deduction of 1 mark.
3. After that one week, no submissions will be accepted and you will be marked straight zero.
4. Students are required to submit the assignment individually.
5. Plagiarism, if detected, will result in zero marks.
6. Assignment must only be submit via slate or google form or what so ever instructed by the teacher.
7. Submit the assignment after making a single zip archive of the assignment files. Submit in “zip folder only” no rar, no any other format is accepted.
8. Folder hierarchy: MS Word document reports 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. Use only Papyrus for modeling and submit the project files.
9. Archive the assignment and name it “FASTAssign01YourRollNo.zip”
10. Cover Page of Assignment document must contain: Student name, Roll no, Date of submission.