



1. Explain the concepts of cohesion and coupling in software engineering. How do they affect software design quality?
2. Explain the concept of Exception in Java. Discuss types of exceptions and how exception handling is done using try-catch-finally.
3. a clear explanation of throw and throws in Java

Lowry College is Further Education College based in Kent, United Kingdom. They specialize in science education. They want a database to help them manage teaching and resources for their various courses. This database will not be concerned, at least initially, with the allocation of students to courses. Each course will have a number of staff allocated to it. A member of staff might be allocated to more than one course. Staff are defined by type: Teacher, Technical Support, Administration, Other. Courses are made up of modules. A module might be part of more than one course. Modules are defined by type: 'Core', 'Elective' or 'Optional'. Some modules such as 'Biochemistry of Life' are taught on different courses. A course might have one or more laboratories associated with it. A laboratory is administered by one particular course. A module will be taught in a particular laboratory. A laboratory might host many different modules. Laboratories have equipment in them. A piece of equipment might be allocated to more than one laboratory. Equipment is defined by type.

1. Natural Language Analysis (NLA) to UML Conversion Using Natural Language Analysis (NLA). how would you translate the following statement into a UML class diagram or use case?
2. How would you create a use case diagram to illustrate the interactions between staff members and the system for managing course resources?

3. How would you represent the relationships between Course, Module, Laboratory, and Equipment in a UML class diagram?

4. What specific multiplicity notations would you use for these relationships in the class diagram? How would you model the different types of Staff and their allocation to Courses
5. What are the three primary building blocks of UML, and how would you apply them to model the system for Lowry College's ? Provide an example for each building block in the context of the given scenario.