

Software Design

The library system

1st semester

Computer Science

36.2 - The library system

In this exercise you will work with UML class diagram. Draw a class diagram for a library management system. The system should have the following classifiers:

Book

The entity stores information about a book. The book has the following properties:

- Title
- Author
- ISBN
- Publication date
- Numbers of copies

Members

Stores information about the member of the library. A member has the following properties:

- Name
- Address
- Phone number
- Membership status

Loan

Stores information about a loan. Its properties are:

- Book borrowed
- The member borrowing the book
- Date when the loan starts.

Fine

Stores information about fines a member has incurred for returning a book late. Its properties is:

- The member which own the fine.
- The book returned too late.
- The value of the fine (in danish kroners).
- The date when the fine has been created.

Steps

1. Draw an UML class diagram, where the above classifiers are present (forget about the relations for now). Remember the features.
2. Draw relations between your classes (remember to use verbs - it makes the diagram more readable). Remember to add accessibility to your features (both structural and behavioural).
3. Try to come up with some behavioural features and add it to your drawing.
4. Come up with at least one generalisation to the Book association.
5. Open VSCode and create the same classes for your classifiers. Remember the features.