Uml code:

```
@startuml

class SISApplication {
    +main(args: String[]): void
}

class LoginWindow {
    -usernameField: JTextField
    -passwordField: JPasswordField
    -USERNAME: String
    -PASSWORD: String
    +LoginWindow()
    -handleLogin(): void
}

class SISApplicationWindow {
    -students: List<Student>
    -courses: List<Course>
    -instructors: List<Instructor>
    -libraryBooks: List<LibraryBook>
    -leaveApplications: List<LeaveApplication>
    +SISApplicationWindow()
    +createStudentPanel(): JPanel
    +showAddStudentDialog(): void
    +showViewStudentsDialog(): void
    +showRemoveStudentDialog(): void
    +createCoursePanel(): JPanel
    +showAddCourseDialog(): void
    +showViewCoursesDialog(): void
    +showRemoveCourseDialog(): void
    +createInstructorPanel(): JPanel
    +showAddInstructorDialog(): void
    +showViewInstructorsDialog(): void
    +showRemoveInstructorDialog(): void
    +createHostelAndFeePanel(): JPanel
    +showViewFeeAndHostelDetails(): void
    +createLibraryPanel(): JPanel
    +showAddBookDialog(): void
    +showViewBooksDialog(): void
    +showBorrowBookDialog(): void
    +createLeaveApplicationPanel(): JPanel
    +showApplyLeaveDialog(): void
```

```
    +showViewLeaveApplicationsDialog(): void
}

class Student {
    -id: int
    -name: String
    -age: int
    -grade: String
    -hostelName: String
    -roomNumber: String
    -feePaid: double
    -course: String
    +Student(name: String, age: int, grade: String, hostelName: String, roomNumber: String,
feePaid: double, course: String)
    +getId(): int
    +getName(): String
    +getFeePaid(): double
    +getHostelName(): String
    +toString(): String
}

class Course {
    -courseName: String
    -instructor: Instructor
    +Course(courseName: String, instructor: Instructor)
    +getCourseName(): String
    +toString(): String
}

class Instructor {
    -name: String
    +Instructor(name: String)
    +getName(): String
    +toString(): String
}

class LibraryBook {
    -bookName: String
    -author: String
    -isBorrowed: boolean
    +LibraryBook(bookName: String, author: String)
    +getBookName(): String
    +setBorrowed(borrowed: boolean): void
    +toString(): String
```

```
}

class LeaveApplication {
    -studentId: String
    -leaveDate: String
    -reason: String
    +LeaveApplication(studentId: String, leaveDate: String, reason: String)
    +toString(): String
}

class HostelAndFee {
    -hostelName: String
    -roomNumber: String
    -feePaid: double
    +HostelAndFee(hostelName: String, roomNumber: String, feePaid: double)
    +toString(): String
}

SISApplication --|> LoginWindow
SISApplicationWindow --> Student
SISApplicationWindow --> Course
SISApplicationWindow --> Instructor
SISApplicationWindow --> LibraryBook
SISApplicationWindow --> LeaveApplication
SISApplicationWindow --> HostelAndFee

Student "1" *-- "1" Course
Course "1" *-- "1" Instructor
LibraryBook "1" *-- "0..1" Student
LeaveApplication "0..*" *-- "1" Student
Student "1" *-- "0..1" HostelAndFee

@enduml
```