

```

// Interface for managing the course database
Interface CourseDBManagerInterface
    Method add(id: String, crn: int, credits: int, roomNum: String, instructor: String)
    Method readfile(input: File)
    Method showAll() -> ArrayList<String>

// Interface for the course database structure
Interface CourseDBStructureInterface
    Method add(element: CourseDBElement)
    Method get(crn: int) -> CourseDBElement
    Method getTableSize() -> int

// Comparable interface for sorting or comparing CourseDBElement objects
Interface Comparable
    Method compareTo(element: CourseDBElement) -> boolean

// Class representing an individual course element
Class CourseDBElement implements Comparable
    Attribute courseID: String
    Attribute crn: int
    Attribute credits: int
    Attribute roomNum: String
    Attribute instructor: String

    // Method to compare this element to another CourseDBElement
    Method compareTo(element: CourseDBElement) -> boolean

// Class for the course database structure, implements CourseDBStructureInterface
Class CourseDBStructure implements CourseDBStructureInterface
    Method add(element: CourseDBElement)
    Method get(crn: int) -> CourseDBElement
    Method getTableSize() -> int

// Class for managing course database operations, implements CourseDBManagerInterface
Class CourseDBManager implements CourseDBManagerInterface
    Attribute structure: CourseDBStructure

    Method add(id: String, crn: int, credits: int, roomNum: String, instructor: String)
    Method readfile(input: File)
    Method showAll() -> ArrayList<String>

// GUI Class to interact with the user
Class CourseDBGUI
    // Connects to CourseDBManager for handling GUI operations

```

Dependency CourseDBManager

// Main Program (example usage)

Program Main

 Create instance of CourseDBManager

 Create instance of CourseDBGUI

 Connect CourseDBGUI with CourseDBManager

End Program