## Class CourseDBElement implements Comparable<CourseDBElement>

-CourseID: String

-CRN: int -credits: int

-roomNum: String-instructorName: String

+CourseDBElement(String courseID, int CRN, int credits, String roomNum, String instructorName) paramaterized constructor +getCRN():int return the CRN integer value +compareTo(CourseDBElement o): int compare CRN value of this to entered value equal return 0, less than return -1, greater return 1 +hashCode(): int convert CRN to string and get hashCode(), return +toString(): String return the String displaying all info

## Class CourseDBStructure implements CourseDBStructureInterface

+ HashSize: int = 0 + elementSize: int = 0

+ hashTable:

LinkedList<CourseDBElement>

+CourseDBStructure(int size)
paramaterized constructor setting
HashSize to Size and
instantiating hashtable with
HashSize

+ add(CourseDBElement):void get the hishcode of the element if the location to put the element is empty create a new linked list and add element and increase size

if not add the element to the linked list and increase size +get(int crn): CourseDBElement get the hashcode of the crn if hash table at hashcode is null throw exception else return the element at hashcode +getTableSize(): int

+getTableSize(): int return the HashSize +assistShowAll():ArrayList<String> create an array of string representing the info for each individual element

## Class CourseDBManager implements CourseDBManagerInterface

+CourseDBStructure CDS = new CourseDBStructure(30)

+add(String id, int crn, int credits, String roomNum, String instructor): void create a new CDE based on the info using paramaterized constructor and add the CDE to the CDS +get(int crn): CourseDBElement return CDS.get(crn) +readFile(File input): void reads the file splitting the document into Strings and adding the strings into array in sets of 5. Use the sets of 5 to create CDEs and add to the CDS +showAll(): ArrayList<String> use the assistShowAll() method to return the arraylist of the CDS return CDS.assistShowAll();

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