CS300 Project One

Jose Munoz

Pseudocode

// Define a Course struct

Struct Course

String courseNumber

String courseName

List<String> prerequisites

// Function to validate a prerequisite

Function isValidPrerequisite(prerequisite, hashTable):

Return hashTable.containsKey(prerequisite)

// Function to load data from file

Function loadCourses(filename):

HashTable<String, Course> hashTable

Open file filename for reading

While not end of file:

Line = readNextLine()

Tokens = split Line by ","

If Tokens.length < 2:

Print "Error: Line does not contain at least course number and name"

Continue

End If

String courseNumber = Tokens[0]

String courseName = Tokens[1]

List<String> prerequisites = []

For i = 2 to Tokens.length - 1:

If not isValidPrerequisite(Tokens[i], hashTable):

Print "Error: Prerequisite " + Tokens[i] + " does not exist as a course"

Continue

End If

prerequisites.add(Tokens[i])

End For

Course newCourse

newCourse.courseNumber = courseNumber

newCourse.courseName = courseName

newCourse.prerequisites = prerequisites

hashTable.put(courseNumber, newCourse)

End While

Close file

Return hashTable

End Function

// Function to print course information

Function printCourseInfo(hashTable):

For each course in hashTable:

Print "Course Number: " + course.courseNumber

Print "Course Name: " + course.courseName

If course.prerequisites.isEmpty():

Print "Prerequisites: None"

Else:

Print "Prerequisites: " + String.join(", ", course.prerequisites)

End If

End For

End Function