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Analysis and Design

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6-2 Submit Project One Pseudocode

FUNCTION loadCourseData(filename):

file = open(filename)

coursesTree = Tree<Course>()

FOR line in file:

tokens = line.split(',')

IF len(tokens) < 2:

PRINT Invalid course data format

continue

course = Course(tokens[0], tokens[1], [])

IF len(tokens) > 2:

FOR i in range(2, len(tokens)):

prerequisite = Course(tokens[i], "", [])

foundPrerequisite = coursesTree.find(prerequisite)

if foundPrerequisite is None:

PRINT Prerequisite course not found

continue

course.prerequisites.append(foundPrerequisite)

coursesTree.insert(course)

file.close()

return coursesTree

FUNCTION printCourseInformation(course):

PRINT course.courseNumber + ", " + course.name

IF len(course.prerequisites) > 0:

PRINT Prerequisites:

FOR prerequisite in course.prerequisites:

PRINT prerequisite.courseNumber

FUNCTION printSortedCourseList(coursesTree):

coursesList = []

coursesTree.traverse(coursesList)

coursesList.sort(courseNumber)

FOR course in coursesList:

printCourseInformation(course)

FUNCTION printMenu():

PRINT "Menu:"

PRINT "1. Load Data Structure"

PRINT "2. Print Course List"

PRINT "3. Print Course Information"

PRINT "4. Exit"

WHILE True:

printMenu()

choice = GET\_USER\_INPUT()

IF choice == 1:

filename = GET\_USER\_INPUT("Enter filename: ")

coursesTree = loadCourseData(filename)

PRINT "Data loaded successfully."

ELSE IF choice == 2:

PRINT "Course List:"

printSortedCourseList(coursesTree)

ELSE IF choice == 3:

courseNumber = GET\_USER\_INPUT("Enter course number: ")

course = coursesTree.find(Course(courseNumber, "", []))

IF course is None:

PRINT "Course not found."

ELSE:

PRINT "Course Information:"

printCourseInformation(course)

ELSE IF choice == 4:

PRINT "Exiting..."

BREAK

ELSE:

PRINT "Invalid choice. Please try again."