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CS300 3-3: Project One Milestone One

//Defaults to public members

struct CourseInfo {

string code

string name

//accounts for 0-N prerequisites

vector<string> prerequisites

//Read CSV file then add row to vector of struct courseInfo

void parseCSV(string csvFile, vector<CourseInfo> &courseList) {

ifstream file(csvFile)

string line

if file is not open

throw an error

while there is a row, assign the content of the row to line {

if the length of the line is 0

continue

if the end of the line doesn’t have a comma

add a comma to the end

if the number of commas found is < 2

throw an error

initialize CourseInfo instance course

set course.code = string before first comma

delete index 0 to index of comma

set couse.name = string before first comma

delete index 0 to index of comma

while there are more than 1 chars in line

if there is no comma in line

add line to end of course.prerequisites vector

break

add string before next comma to the end of the course.prerequisites vector

set line = line with index 0 index of comma deleted

add course to end of courseList vector

close file

}

// Verify that each unique course prerequisite is listed as a course

void validateCourses(vector<CourseInfo> &courseList){

vector<string> tempPrereqs

vector<string> tempCourses

//courses listed to check prerequisite courses are listed

for each CourseInfo course instance in the courseList instance

add course.code to the end of the tempCourses vector

//check each course for their prerequisites

for each CourseInfo course instance in the courseList instance

//check if prerequisite course is listed as course

for each string prereq in course.prerequisites

if prereq is in tempCourses

continue

else

throw an error

}

// Search for course given course code as search parameter

void searchCourse(vector<CourseInfo> people, string searchItem)

for each CourseInfo course instance in courseList

if each course.code = searchItem

print course.code

print course.name

for each string prereq in course.prerequisites

if prereq length is 0

continue

print prereq

return

print “Course code not found”

main {

string csvFile = csv file location

vector<CourseInfo> courseList

parseCSV(csvFile ,courseList)

validateCourses(courseList)

searchCourse(people, get user search parameter)

return 0

}