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CS 300: Project One Milestone One: Pseudocode

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**Part 1- Vector Pseudocode**

//Define structure to hold course info.

Struct Course

String courseNumber

String title

String ListPrerequisites

//Initialize vector

Vector<Course> courseVector

//Read the file information from Course file.

Using fstream to open file

LoadCourseData void loadCourses (string\_csvFilePath)

OPEN file at the file path

IF file doesn’t open Print “File could not open.”

RETURN

ELSE file opens successfully

WHILE not end of file

READ each line of file

ParseCourseLine(line)

IF course isn’t NULL

ADD to courseVector

End WHILE

RETURN

//Parse line of the course information

PARSECourseLine(line)

SPLIT CourseLine at each piece of information (courseNumber, title, prerequisites)

ADD newCourse with courseNumber and title

IF prerequisites

ADD prerequisites to newCourse

ADD newCourse to the vector structure

RETURN newCourse

//Validate prerequisites

FOR each prerequisite in newCourse prerequisites

IF NO courseExists prerequisites

PRINT “Prerequisite doesn’t exist.”

RETURN NULL

IF courseExists prerequisites found

PRINT course prerequisites

RETURN newCourse

//Print all courses in order

SORT courseVector by courseNumber

FOR EACH course in courseVector

PRINT courseNumber + course.title

RETURN

//Print course information and prerequisites

PrintCourseInfo(course)

IF courseNumber = courseNumber input

PRINT “Course Number: “ + course.courseNumber

PRINT “Title: “ + course.course.title

PRINT “Prerequisites: “ + course.coursePrerequisites

IF NO coursePrerequisites

PRINT “No prerequisites”

ELSE

FOR EACH prerequisites in course.prerequisites

PRINT Prerequisites

ELSE IF courseNumber doesn’t exist

PRINT “No course found”

RETURN

//Search for a course and print information

void searchCourse(Vector<Course> courses, String courseNumber) {

for all courses

if the course is the same as courseNumber

print out the course information

for each prerequisite of the course

print the prerequisite course information

**Pseudocode for a menu:**

START PROGRAM

REPEAT until user selects to exit:

DISPLAY the menu:

1. Load course data from the file
2. Print all courses in alphanumeric order
3. Print course information and prerequisites for an individual course

9. Exit the program

PROMPT user for their choice

READ user choice

IF userChoice is 1:

ASK user for file name

CALL loadCourseData by file name

SET fileLoaded = true

ELSE IF userChoice is 2:

IF file hasn’t been loaded

PRINT “Please load the file first”

ELSE display courses in alphanumeric order

ELSE IF userChoice is 3:

IF file hasn’t been loaded

PRINT “Please load the file first”

ELSE ASK for course number to search

CALL print course info by courseNumber

ELSE IF userChoice is 9:

PRINT “Goodbye”

EXIT loop

ELSE:

PRINT “Choice isn’t valid. Please enter a valid choice”

END PROGRAM