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SNHU CS-300

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**Pseudocode**

**Include Required Libraries and Define Struct**

Load necessary text parsing libraries and headers.

Define a Course struct with the following attributes:

courseID (string)

courseName (string)

preCount (integer)

preList (string)

Implement a constructor for Course that initializes:

courseID and courseName as empty strings.

preCount as 0.

preList as an empty string.

**Main Function**

Create a list named courseList to store Course objects.

Prompt the user to enter the file path for the CSV file.

If no file path is provided, use a default location.

Call txtParser() with the file path to parse course data.

Call validateList() to verify the integrity of courseList.

Ask the user for a course ID to search for and store it in userSearch.

Call printCourse() with userSearch to display course details.

txtParser(filePath: String) → List

Create a temporary list tempList to hold course data.

Open the file at filePath using a text parsing library.

Loop through the file line by line until reaching the end.

If the first two columns contain values:

Assign the first column to courseID.

Assign the second column to courseName.

Loop through the remaining columns to extract prerequisites:

For each prerequisite found, increment preCount.

Append prerequisite names to a local string preNames.

Assign preCount and preNames to the course structure.

Add the course to tempList.

Return tempList.

searchList(targetID: String) → Course

Create a temporary variable tempCourse of type Course.

Loop through courseList:

If a course's courseID matches targetID, set tempCourse to that course.

Return tempCourse.

printCourse(courseID: String)

Create a temporary variable tempCourse of type Course.

Set tempCourse by calling searchList(courseID).

Print courseID and courseName to the console.

If the course has prerequisites (preCount > 0), loop through them:

For each prerequisite in preList, call printCourse() recursively with the prerequisite's ID.

validateList() → Boolean

Create a temporary variable tempCourse of type Course.

Set a valid flag to True.

Loop through each course in courseList:

If valid is False, exit the loop.

Loop through each prerequisite in preList:

Call searchList() with the prerequisite ID and store the result in tempCourse.

If tempCourse.courseID is empty, set valid to False.

Return valid.