# John Lopes

4-3 Milestone: Hash Table Pseudocode

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Hash Table Pseudocode

## Pseudocode for File Reading and Validation

Function OpenFile(filename):

Try {

Open the file named filename for reading

Return the file object

}

Except FileNotFoundError {

Display an error message indicating the file was not found

Terminate the program

}

Function ValidateFileFormat(file):

For each line in the file {

Split the line into tokens using comma as delimiter

If the number of tokens < 2 {

Display an error message indicating the line format is incorrect

Terminate the program

}

For each prerequisite in tokens[2:] {

If prerequisite is not found in the list of course numbers {

Display an error message indicating the prerequisite is missing

Terminate the program

}

}

}

Function ReadAndValidateData(file):

Call OpenFile function with the given filename

Call ValidateFileFormat function with the opened file

If no errors occurred {

Return the file object

}

**Course Object Creation and Storage Pseudocode**

CreateHashTable(size)

hashTable = new HashTable(size)

return hashTable

LoadDataIntoHashTable(filename, hashTable)

file = OpenFile(filename)

while not EndOfFile(file)

line = ReadLine(file)

tokens = SplitLine(line)

if Length(tokens) < 2

PrintError("Invalid file format: Each line must have at least two parameters")

return

course = CreateCourse(tokens)

InsertIntoHashTable(hashTable, course)

CloseFile(file)

CreateCourse(tokens)

course = new Course()

course.courseNumber = tokens[0]

course.title = tokens[1]

if Length(tokens) > 2

for i = 2 to Length(tokens) - 1

course.prerequisites.Add(tokens[i])

return course

**Printing Course Information and Prerequisites Pseudocode**

PrintCourseInformation(hashTable, courseNumber)

course = SearchInHashTable(hashTable, courseNumber)

if course is null

Print("Course not found")

return

Print("Course Number: " + course.courseNumber)

Print("Title: " + course.title)

if course.prerequisites is not empty

Print("Prerequisites:")

for each prerequisite in course.prerequisites

Print(prerequisite)

else

Print("No prerequisites")

SearchInHashTable(hashTable, courseNumber)

return hashTable.Search(courseNumber)

Print(message)

Console.WriteLine(message)