3-3 Milestone: Vector Data Structure Pseudocode

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**REQUIREMENT ONE (FILE INPUT)**

DECLARE string variable “csvPath”.

INITIALIZE csvPath equal to file path;

DECLARE filestream variable myFile

OPEN myFile filestream and pass in csvPath as an argument.

DECLARE string variable “line” and set it equal to empty string. //always initialize variables.

DECLARE courses vector // used to store courses.

LOOP through csv file.

INVOKE getline() method to parse the file and retrieve the data line by line.

PASS in filestream name and line variable

WHILE (getline(myFile, line))

DECLARE stringstream variable (“ss”) and pass in the line variable.

DECLARE string courseNumber; //used to hold the course number from .csv file

DECLARE string name; //used to hold the course name from .csv file

DECLARE vector prerequisite; // used to hold multiple prereq’s for a single course.

//The following code will parse the csv file and assign any data to the variables created above //Each time a line is read the parser looks for the delimiter char ‘,’ as a stopping point.

INVOKE getline() method and pass in (ss, courseNumber, ‘,’) as arguments.

INVOKE getline() method and pass in (ss, name, ‘,’) as arguments.

INVOKE getline() method and pass in (ss, prerequisite, ‘,’) as arguments.

DECLARE a Course structure that holds a single course and passes in (courseNumber, name, prerequisite) as arguments.

Course course (courseNumber, name, prerequisite);

// Next line of code appends the course to the courses vector.

INVOKE push\_back() method on courses object using dot notation and pass in the course.

courses.push\_back(course).

}

INVOKE displayCourses() method and pass in courses as an arguement.

displayCourses(courses) // used to print the courses stored in the courses vector.

}

END LOOP

**REQUIREMENT TWO (COURSE OBJECT)**

DEFINE Struct Course // defines the structure of the course object

{

PUBLIC variables: //used to store csv file data

COURSE(

DECLARE string courseNumber;

DECLARE string name;

DECLARE vector prerequisite  
 )

{

INITIALIZE string courseNUM = to courseNumber; //declared after display()

INITIALIZE string Name = to name; //declared after display()

INITIALIZE string PreReq = to prerequisite; // declared after display()

}

DEFINE display() method with type void

{

PRINT courseNum

PRINT “: “

PRINT Name

PRINT “ / “

PRINT PreReq

PRINT ENDLINE;

}

DECLARE string courseNum;

DECLARE string Name;

DECLARE string Prereq;

};

**REQUIREMENT THREE (PRINT COURSE)**

DEFINE displayCourses() method that is passed in a reference to courses vector.

displayCourses(vector<Course> courses)

{

FOR LOOP through courses vector

{

CALL display() method on course object using dot notation.

course.display();

}

}