For this milestone, I wrote pseudocode to show how course data would be loaded into a binary search tree (BST) for ABC University. The idea was to take data from a CSV file that lists course numbers, titles, and optional prerequisites, and turn each line into a Course object that can be stored and organized by course number. I also included logic to validate the file format, make sure every prerequisite listed actually exists as a course, and finally print out the course details in order. This structure should make it easy for advisors or students to search and retrieve course information quickly using binary tree traversal. I tried to keep the logic clean and easy to follow so it can be converted into working C++ code for the final project.

**Pseudocode:**

1. **Open and Read the File**

OPEN the course data file

IF file cannot be opened

DISPLAY "Error: File could not be opened."

EXIT program

1. **Parse and Validate Each Line**

WHILE not end of file

READ line from file

SPLIT line into tokens by comma

IF number of tokens < 2

DISPLAY "Error: Line does not contain enough course information."

CONTINUE to next line

SET courseNumber ← tokens[0]

SET courseTitle ← tokens[1]

CREATE empty list called prerequisites

FOR each token in tokens starting from index 2

ADD token to prerequisites list

1. **Create Course Object and Insert into BST**

CREATE new Course object

SET Course.number ← courseNumber

SET Course.title ← courseTitle

SET Course.prerequisites ← prerequisites list

INSERT Course into Binary Search Tree based on Course.number

END WHILE

1. **Validate Prerequisites**

FOR each Course in the Binary Search Tree

FOR each prerequisite in Course.prerequisites

IF prerequisite is NOT found in the Binary Search Tree

DISPLAY "Error: Prerequisite " + prerequisite + " not found in course list."

**5. Print Course Info (In Order Traversal)**

FUNCTION PrintCoursesInOrder(node)

IF node IS NOT null

CALL PrintCoursesInOrder(node.left)

DISPLAY node.courseNumber + ", " + node.courseTitle

IF node.prerequisites IS NOT empty

DISPLAY "Prerequisites: " + JOIN(node.prerequisites, ", ")

CALL PrintCoursesInOrder(node.right)

**6. End**

CLOSE the file

DISPLAY "Course data successfully loaded into binary search tree."