**Pseudocode Vector Data Structure**  
 (Sorting and printing)

FUNCTION printCoursesInAlphanumericOrder(courseVector)

IF courseVector is EMPTY THEN

PRINT "No courses available."

RETURN

SORT courseVector by Course.courseNumber in ascending order

PRINT "Courses in alphanumeric order:"

FOR each Course in courseVector DO

PRINT "Course Number: " + Course.courseNumber

PRINT "Title: " + Course.title

PRINT "Prerequisites: " + Course.prerequisites

**Pseudocode Hash Table** (Sorting and printing)  
  
FUNCTION printCoursesInAlphanumericOrder(hashTable)

INITIALIZE an empty list allCourses

FOR each bucket in hashTable.nodes DO

IF bucket is NOT empty THEN

TRAVERSE the linked list in bucket

FOR each Node in linked list DO

ADD Node.course to allCourses

IF allCourses is EMPTY THEN

PRINT "No courses available."

RETURN

SORT allCourses by Course.courseNumber in ascending order

PRINT "Courses in alphanumeric order:"

FOR each Course in allCourses DO

PRINT "Course Number: " + Course.courseNumber

PRINT "Title: " + Course.title

PRINT "Prerequisites: " + Course.prerequisites

**Pseudocode Binary Search Tree** (in order traversal for sorted output)

FUNCTION printCoursesInAlphanumericOrder(bst)

IF bst.root IS NULL THEN

PRINT "No courses available."

RETURN

CALL inOrderTraversal(bst.root)

FUNCTION inOrderTraversal(node)

IF node IS NOT NULL THEN

CALL inOrderTraversal(node.left)

PRINT "Course Number: " + node.course.courseNumber

PRINT "Title: " + node.course.title

PRINT "Prerequisites: " + node.course.prerequisites

CALL inOrderTraversal(node.right)