OPENFILE <PrereqsCS>

READFILE <PrereqsCS>

OPENFILE “Prerequisites:” //file is created to store class descriptions to the class variables

FOR every line <PrereqsCS>

WRITEFILE: “Prerequisites:” = <PrereqsCS>.readlines() print (“Prerequisites:”)

DECLARE prereqs:

CSCI100: Introduction to Computer Science

CSCI101: Introduction to Programming in C++

CSCI200: Data Structures

MATH201: Discrete Mathematics

CSCI300: Introduction to Algorithms

CSCI301: Advanced Programming in C++

CSCI350: Operating Systems

CSCI400: Large Software Development

WHILE prereqs = CSCI OR MATH DO //parameters for ABCU CSprereqs and

IF prereqs = CSCI

Keep and WRITE CSCI prereq

//first part of courseDATA is the subject, second part is the course description

Keep and WRITE courseNUM = CourseDescription

IF prereqs = MATH

Keep and WRITE CSCI prereq

Keep and WRITE courseNUM = CourseDescription

ELSE

OUTPUT: “Invalid Prerequisite for Computer Science:” PRINT prereqs

RETURN

//DISPLAY MENU WITH USER SELECTIONS WITH EACH INTEGER SERVING AS A FUNCTION

START

DISPLAY MENU:

PRINT: “1. Load Data Structure”

PRINT: “2. Print Course List”

PRINT: “3. Print Course”

PRINT: “4. EXIT”

PRINT: “Please make a selection by entering numbers one through four”

//Print the course map for ABCU CS students

START

OPEN <“Prerequisites”>

BEGIN “CourseInfo:

INPUT: “Please enter the subject”

IF CSCI

IF MATH

INPUT: “Please enter the Course Number”

PRINT: “(subject Inputted)(CouseNUM): (CourseDescription)

PRINT: Course Prerequisites: (two course data directed before the inputted course)

ELSE

OUTPUT: “Invalid subject for Computer Science:” PRINT <“Prerequisites”>

RETURN

//DISPLAY MENU WITH USER SELECTIONS WITH EACH INTEGER SERVING AS A FUNCTION

START

DISPLAY MENU:

PRINT: “1. Load Data Structure”

PRINT: “2. Print Course List”

PRINT: “3. Print Course”

PRINT: “4. EXIT”

PRINT: “Please make a selection by entering numbers one through four”

CODE REFLECTION:

The three data structures potentially used for Project One were Vector, Hash tables, and Binary Search Trees. Selecting a type of data structure depends on the type of data being stored as well as how the stored data will be used and presented. Vectors store an ordered list of items, Hash Tables store unordered items, and Binary Search Trees store data in nodes with each node having a left child and a right child. For this specific project, since we already know that the file being uploaded into the program is already in an ascending order, the Vector data structure is my preferred data structure to implement into my code. The course information being uploaded has a relatively small number of variables. Now if the course information being uploaded was for the entirety of the ABCU, then Hash Tables would be the preferred data structure because there are a larger number of variables and they do not have to be in any particular order. Lastly, Binary Search Tree is a medium between the two data structures because just like with Vector, we already know what the course information consists of. The course information only contains MATH and CSCI, which can be their own respective left and right trees.