

## Computer Science 435

### Project 1: The Common Meeting Time Problem

**Due:** Tarball must be recieved by Wed. Feb 13, 11:59 p.m. This project is worth 50 points.

The Common Meeting Time problem is the problem of finding the particular times when a group of people are all available to meet. Write a concurrent program in Java to the common meeting time problem for five people.

**Input:** The input to your program will be a file containing five lines of data. The name of the file will be specified as the first and only argument on the command line. Each line of the file represents the information for one person, and will consist of an unsigned integer, followed by zero or more integers. The unsigned integer will tell you how many integers follow on that line. Each of the integers after the first represents a “time” when that person is available to meet.

You can assume that no time is listed more than once in a list, but do not make any other assumptions about the input.

As an example, suppose we have the following situation:

- the first person can meet at times 3, 2, 4, 1 and 5;
- the second can meet at 2;
- the third can meet at 9, 13, 17, 6, 5, 4, 3 and 2;
- the fourth at 0 and 2;
- and the fifth at times 3, 4, 9, 2, and 0.

This information would be represented in the file like this:

```
5 3 2 4 1 5
1 2
8 9 13 17 6 5 4 3 2
1 0 2
5 3 4 9 2 0
```

**Program Structure:** Structure your program as follows: The main thread should be responsible for reading the file into five lists. This thread should then create a new child for each time represented in the first list.

Each of these child threads is responsible for searching the other four lists to see if its particular time occurs in each of the other lists.

If a child thread finds that the value it is searching for occurs in all of the lists, it should print out the string `"T is a common meeting time."` of course replacing T with the value it is responsible for.

If no thread succeeds in finding a common meeting time, your program should output the string `"There is no common meeting time."`

**What to turn in:** When you have finished with the program, send an email message to me that contains, as an attachment, a tarball containing only your source files - do not include any class files. In the body of your email give any special instructions that I will need to follow to untar, compile, and execute your program on the departmental Linux server ice.

Then, print a hard copy of the source to turn in. Make sure your main class is on top. Please submit your source hard copy within one class day of your electronic submission. I will use the date of your electronic submission as the official submission time.