**ICS 108 – Object-Oriented Programming**

**Lab # 25 – Sets and Maps**

**Objectives:**

In this lab, the following topic will be covered:

1. Sets
2. Maps

**Task**

You have a list of student ID’s followed by the course number (separated by a space) that the student is enrolled in. For example, if student 1 is in ICS108 and MATH101 while student 2 is in ICS104 and MATH101 then the file might look like this:

1 ICS108

2 MATH101

2 ICS104

1 MATH101

Write a program that reads data in this format from a text file. Use the TreeMap class to map from a string (the course) to a TreeSet of type Integer that holds each student’s Id enrolled in that course. The declaration should look like this:

TreeMap<String, TreeSet<Integer>> courses = new TreeMap<>();

After all data is input, iterate through the map and output the course and all Ids stored in the TreeSet for that course.