Lab 14
Maps, Dictionaries and Sets and their Applications

<u>Section: Programming Challenges</u>

1. vector, set, find
Write a program that performs the following tasks:
a. Generate 10 random numbers ranging from 0-9, display the numbers.
b. Sort the numbers in ascending order, display the result.
c. Sort the numbers in descending order, display the result.
d. Find out all unique numbers, sort them in ascending order, and display the result.
e. Sort the unique numbers in descending order, display the result.
f. Ask the user to provide a target, then find the location of the target in the original sequence.

2. multimap
Write a program that maintains the advisory relationship between lecturers (advisors) and students (advisees). Your program should perform the following tasks:
a. Ask the user to type the name of a lecturer and the id of a student he/she advise.
b. A lecturer may advise more than one student.
c. Display all lecturers and the associated students sorted by lecturer in ascending order.
d. Display all lecturers and the associated students sorted by lecturer in descending order.
e. Ask the user to specify a lecturer to search, then display all students under his/her advice.