

COP 2930 - Introduction to Computing

Sets 2 - Suggested Exercises

Objective:

1. Practice writing programs that use sets.
 - 1) Read in two sets of grocery lists and output how many items both lists have in common and how many total items are in both lists.
 - 2) Write a program that has four users enter which attributes they have. We define that a pair of users are a good match to be friends if they share attributes. Of all possible pairs, have your program output which single pair of users is the best match to be friends (sharing the maximum number of attributes.)
 - 3) Write a program to grade a true/false test. The input will come from a file. The first line of the file will have a single integer, n , representing the number of questions on the test. The next line will have n space separated letters, either 'T' or 'F', in order, with the correct answer for each question. The third line of the input file will have a single integer, k , representing the number of students who took the test. The next k lines will have n space separated letters each, representing the answers to the n questions, for each of the k students. For each student, write out how many questions they got correct. In solving the problem, store the correct answers as a set of question numbers for which the answer was true. Do the same for each student. Then use set operations and a bit of logic to score each test!