

CS 1344 Fall 96
Assignment 3: Computerized Dating
Due Date: Thursday Dec. 5, 1996

Problem

Code a C program to find compatible couples for a dating service company.

Discussion

The input to the program is in two files: "clients.old" and "clients.new", which will be available shortly from the course WWW site for downloading. The format for both files is as follows:

columns	description
1 - 20	client's name
21 - 40	address
41 - 50	Phone number
51	Sex (M - male F - female)
52 - 53	age
54 - 59	Interests- if the corresponding column is nonblank ('X' in column) it denotes an interest in art, literature, music, theatre, politics and sports respectively.

For each new client output a list of compatible persons. A person is compatible if they are of opposite sex, age difference is ≤ 10 and they have at least two common interests. For each new client, output their name, address and phone number followed by the list of compatible persons' name, address and phone numbers, appropriately labeled. The output should have an appropriate title, (makeup a fictitious company name), and resemble a tabular report. Assume that each file contains no more than 50 clients. This will require an array of no more than 100 records to hold both files. Read in both files and keep track of where the old clients end and the new clients begin. Note that for clients who have no interest in sports, the last column will be blank. However, this blank will most probably be truncated off by the operating system. For each new client compare them to every other client for compatibility, this should include the other new clients also. Output each list with appropriate headings and clearly separated.

Execution

The program should initially present the user with a startup screen displaying the name of the program, a brief 3-4 line explanation of the program, the programmer's name, and email address. After waiting until the user hits the return key the startup screen is cleared. A brief help screen should appear explaining the program to the user, which is cleared upon the pressing of the return key.

Following the brief help screen the user is prompted for the name of the existing, (old), clients file name and then the new clients file name one at a time. The file contents need NOT be checked for *correctness*. There is no input error checking required for this program. At this point the client compatibility lists must be produced on the screen and stored in a file for later output. Once all of the compatibility lists for all of the new clients have been output, the program should produce an updated clients file containing all of the old and new clients, merged together and sorted by name, in the file "*update.dat*". The program should issue a brief termination message before returning to the operating system.

Grading

Turn in hard copies of the source code, input/output files and a top-down hierarchical design tree of the program. In addition, submit a DOS (FAT) 3 1/2 HDD (1.4MB) diskette, with files containing: ASCII source code, executable image, I/O files, and an ASCII *readme* file with execution instructions. The source code file must be named dating.cpp and the executable image dating. The disk must contain no subdirectories. All materials to be graded must be placed in a sealed folder, neatly labeled, with your name, course number, program number and date.

You may be required to demonstrate your program. To receive partial credit for programs that are non-working, or are not fully functional, a brief one or two paragraph description of the problem(s) must be included in the assignment folder. The location, routine minimum, must also be specified along with possible corrections that need to be made.