

CS 12 - Assignment 1

Data Files

Due Monday, January 26

In this assignment you will be using data files. You will write a program that uses both input files and output files. A data file will be used as a way to save data between runs of a program. Be sure to include all necessary information at the top of your program and use good commenting and style throughout. When you turn in your program, be sure to print out the proof of turn in page.

Write a program that helps a company keep track of employees and their starting dates. Employees are up for review every year. This program should allow the company to find out who is up for review in a particular month.

Each employee has a id. This id and their starting date (month and day) should be stored in a file called *employee.dat*. The only way employees and their starting dates will be added to the file will be through this program. All employees added to the list during the run of this program should be saved so that they appear in future runs of this program.

You will give the user the following menu to choose from upon start of the program. The user should be able to continue choosing options until they decide to quit the program.

- Allow the user to add an employee and their starting date (month and day) to the list. This option should prompt the user for the id, and starting month and day of the employee. Then this information should be added to the file *employee.dat*. Thus, *employee.dat* should be an output file in this function. In order to add information to a file without destroying any information that may already be in the file, you should open the output file in *append* mode.
- Add more employees and their starting dates to the list by reading from a file. This function should ask the user for the name of the file to be read from, which should be opened as an input file. (Note: this is essentially adding the information in one file onto the end of the file *employee.dat*. Assume that the information is in the same format as that of *employee.dat*. You should then continue to read a line of information from the specified file and output it to *employee.dat* until all has been read. The file *employee.dat* should be opened as an output file in *append* mode. Be sure that you can deal with blank lines at the end of the user specified file.
- Employees come up for review every year. Print out all the ids and days of the people who have a review in a particular month. This function should ask the user for a month. Then you should go through the file *employee.dat* and compare each starting month to see if it matches the

one the user specified. If it does, print out the id and day to the screen nicely formatted.

Thus, for this function, *employee.dat* should be opened as an input file. If no names have been written into the list (this may happen if this is the user's first menu choice the first time the program is run), a message saying that the list is empty should be displayed.

You should use functions for this assignment. For example, the main of the program should display the menu of choices and read in the user's choice. Each choice should then call a separate function. Start with writing only one choice and thus one function at a time. This helps you find your bugs quicker and fix them before they cause larger problems as the program grows.