

Object Oriented Programing Lab

BSCS(Fall 2015)

Lab # 12

Friday, May, 13, 2016

Instructions: For support and guidance you can CONTACT ME AND TA's. Discussion with peers is strictly prohibited.

Problem # 1 (Array/File Functions)

Write a function named `arrayToFile` . The function should accept three arguments: the name of a file, a pointer to an int array, and the size of the array. The function should open the specified file in binary mode, write the contents of the array to the file, and then close the file. Write another function named `fileToArray` . This function should accept three arguments: the name of a file, a pointer to an int array, and the size of the array. The function should open the specified file in binary mode, read its contents into the array, and then close the file. Write a complete program that demonstrates these functions by using the `arrayToFile` function to write an array to a file, and then using the `fileToArray` function to read the data from the same file. After the data are read from the file into the array, display the array's contents on the screen.

Problem # 2 (File Encryption Filter)

File encryption is the science of writing the contents of a file in a secret code. Your encryption program should work like a filter, reading the contents of one file, modifying the data into a code, and then writing the coded contents out to a second file. The second file will be a version of the first file, but written in a secret code. Although there are complex encryption techniques, you should come up with a simple one of your own. For example, you could read the first file one character at a time, and add 10 to the ASCII code of each character before it is written to the second file.

Problem # 3 (File Decryption Filter)

Write a program that decrypts the file produced by the program in Problem # 2. The decryption program should read the contents of the coded file, restore the data to its original state, and write it to another file.

Problem # 4 (Corporate Sales Data Output)

Write a program that uses a structure to store the following data on a company division:

Division Name (such as East, West, North, or South)

Quarter (1, 2, 3, or 4)

Quarterly Sales

The user should be asked for the four quarters' sales figures for the East, West, North, and South divisions. The data for each quarter for each division should be written to a file.

Input Validation: Do not accept negative numbers for any sales figures.

Problem # 5 (Corporate Sales Data Input)

Write a program that reads the data in the file created by the program in Problem # 4. The program should calculate and display the following figures:

- Total corporate sales for each quarter
- Total yearly sales for each division
- Total yearly corporate sales
- Average quarterly sales for the divisions
- The highest and lowest quarters for the corporation