

Final Coding Test

CS-102

Spring 2022

Final Coding Test

(Open Book, notes)

- **READ EVERYTHING BEFORE YOU START AND MAKE A PLAN!** Make sure you understand the problem description. Ask questions if you don't!
- If you get “stuck” in your coding you can ask a question – it will “cost” you 1 point (out of 25) each time.

PROBLEM

- A company has sales reps that sell two different product lines. The sales amounts for each product are recorded. A commission is paid based on the total sales. The commission is determined as follows:

Total sales	Commission
less than \$4000	5% of sales
\$4000 to less than \$8000	7% of sales
\$8000 or more	10% of sales

Final Coding Test

- Data for sales reps is stored in a file salesdata.txt. Each line of the file is in this format:

Salesrep name#sales1 sales2

- Create a struct, SalesRep, to represent a SalesRep with:
 - name
 - product1 sales
 - product2 sales
- Note that because we are not saving our struct in a binary Direct Access file structure, you may choose to give the type for the name as a C++string type rather than a Cstring type.

Final Coding Test

- Create an array of type SalesRep in main that can hold up to 20 reps.
- Your program will prompt for the name of the file and validate that it exists.
 - Read the data from the file and populate the array.
 - You will need to count the actual number of sales reps in the file.
 - Make sure your code tests that the array is not overfilled.

Final Coding Test

- **Sales report**

- Print the name, total sales, and commission for all reps entered into the system in the format shown below on sample output.

- **Diamond Club**

- Print the name and total sales of all reps with \$10,000 or more in total sales

- Run your program with the data contained in salesdata.txt .

Sample Report Format

Sales Report

Employee	Total Sales	Commission
Captain Kirk	\$ xxxxx.xx	\$ xxxx.xx
Bruce Wayne	\$ xxx.xx	\$ xx.xx
Harry Potter	\$ xxxxx.xx	\$ xxxx.xx
Peter Parker	\$ xx.xx	\$ xx.xx
Clark Kent	\$ xxxxx.xx	\$ xxxx.xx
<i>etc.</i>	<i>etc.</i>	<i>etc.</i>
Total	\$xx,xxx.xx	\$x,xxx.xx

salesdata.txt

James T. Kirk#8500 2650
Bruce Wayne#4880 3120
Harry Potter#1500 850
Peter Parker#9800 5100
Clark Kent#2750 1250
Lois Lane#8250 5200
Bob Blue#5125 7500
Steve Green#1200 3000
Jill White#1500 2500
Sam Black#5200 2800

Final Coding Test

- For FULL credit you should create functions to:
 - Read the file
 - Calculate the commission for an individual
 - Generate the sales report
 - Generate the diamond club report

Final Coding Test

- **For full credit:**
 - Your code must be properly indented.
 - Your code will have at least one function besides main().
 - Output should be formatted so that numbers align as in sample output.
 - Make sure the answers are correct! I am purposely not showing the answers.

Final Coding Test

- **SAMPLE RUN**

Enter name of file: **s.txt**

s.txt not found, re-enter: **salesdata.txt**

Reading file

Report generated

Programmed by *yourname*

Final Coding Test

Diamond Club Qualified

Name rep	Total Sales \$ xx,xxx.xx
-------------	-----------------------------

- Please submit all code and results to Canvas

Tip

- In Laboratory 6C, we solved a problem with a similar type of input.