University of Technology, Jamaica

School of Computing and Information Technology

Faculty of Engineering and Computing

Programming 1 Final Project-based Assessment (CMP1024)

Semester 1 – AY: 2023/2024

DUE DATE: DECEMBER 12, 2023

INSTRUCTION:

1. **Using the Pseudocode solution from Part B develop the PYTHON solution for the problem below.**
2. **If necessary, you may update your Pseudocode. If no changes are necessary, please state it clearly**
3. **At the end of your assignment kindly submit information as to the contribution of each group member.**
4. **Use the test data provided to test your solution and provide screen shots.**
5. **The RUBRIC is at the end of the document, kindly reference it while developing your solution.**
6. **Plagiarized solution will be automatically given zero (0).**

Part 1B

Mr. Phillips is a small business owner who owns a barbershop called "Phillip's Barbershop". The barbershop contains three (3) stations for cutting hair which he sub-contracts to three (3) barbers.

Customers are required to give the following information when requesting a service: customer name, service needed, and station number. Mr. Phillips collects 5% of the daily sales amount plus a fixed amount of $500.00 (per day) from each station as rent. He wants a digital system to help manage his daily operations so he can closely monitor the revenue generated from the Barbershop.

The barbershop opens at 9:00 AM each day. Assume that each station takes a total of 30 minutes to complete a customer's requested service and all appointments are kept, design a simulation of Mr. Phillip's Barbershop that accepts the above stated information as input and continues accepting inputs

until the total minutes of 720 or exactly 9:00 PM is reached. The table below shows the services Phillip's Barbershop offers:

Table Showing Phillip's Barbershop Services

Service	*Cost ($)*
Men's Haircut	*1000.00*
Men's Head Shave	*1300.00*
Children's Haircut	*600.00*
Children Head Shave	*900.00*
Beard/Mustache Lineup	*650.00*
Eyebrow Shave	*400.00*

Note: barber's commission = station earnings - (5% of station's earnings + 500)

Ensure proper validation and appropriate error messages for the following:

1. Customer name (at least three characters long)
2. Service selected (from table above)
3. Station number

Show as output for each customer an attractive user-friendly display of:

a. Customer name
b. Service selected
c. Station number
d. Cost

Once the system reaches 720 minutes (about 12 hours) it is assumed that the barbershop is closed for business. At this point display the following in a neatly formatted order:

1. Total sales per station for the day
2. Total customers per station for the day
3. Commission per station for the day (station's earnings - rent amount)
4. Total day's sales
5. Total customers for the day
6. Total revenue for the day (commission plus total rent for the day)

Test Cases (Part 1C)

Customer Name	Service	Station Number	Expected Output
Kirk	1	1	Kirk, Men's Haircut, 1, 1000
Bob	2	2	Bob, Men's Head Shave, 2, 1300
Eric	3	3	Eric, Children's Haircut, 3, 600
Steven	4	1	Steven, Children Head Shave, 1, 900
Oliver	5	2	Oliver, Beard/Mustache Lineup, 2, 650
Lisa	6	3	Lisa, Eyebrow Shave, 3, 400

RUBRIC

Updated Pseudocode	5
PROGRAM IMPLEMENTATION:	
• MAPPING OF PYTHON TO PSEUDOCODE	15
• DOCUMENTATION OF CODE	
○ Indentation	5
○ Comments	5
• PROGRAM FREE OF COMPILIATION ERRORS	5
• SUBMITTED SCREEN SHOTS WITH TEST CASES PROVIDED	10
Total	**40**