



Coding Challenges > BACKEND > Metro Card

Metro Card

Problem statement

Sample I/O

Badges and score



Build instructions



Help Center

Quick tips:

- All input commands are to be read from a file, and output is to be printed to the console.
- Build a command line application with the location to the text file as parameter.
- No server, DB, UI or in-memory data store required.
- Avoid using third party libraries/frameworks for implementing core logic.

Next step:

Write solution offline in your language of choice and upload when ready.



Starter Kit

Submit Code

Input Commands & Format

BALANCE <METROCARD_NUMBER> <BALANCE_IN_THE_METROCARD>

- <METROCARD_NUMBER> is the identifier for a given MetroCard.
- <BALANCE_IN_THE_METROCARD> is the amount of money available in the MetroCard for journeys.

CHECK_IN <METROCARD_NUMBER> <PASSENGER_TYPE> <FROM_STATION>

The CHECK_IN command should deduct the appropriate amount of travel charge from the MetroCard of the passenger, depending on the passenger type. If the passenger has already made a single journey, then only 50% of the travel charge should be deducted from the MetroCard for



their return journey.

PRINT_SUMMARY

Returns calculated travel charges collected, and passenger summary per station in the following format:

- TOTAL_COLLECTION AIRPORT <amount of travel charges collected> <total discount given>
- <PASSENGER_TYPE with highest count from AIRPORT> <passenger type count>
- <PASSENGER_TYPE with second highest count from AIRPORT> <passenger type count>
- <PASSENGER_TYPE with least count from AIRPORT> <passenger type count>
- TOTAL_COLLECTION CENTRAL <amount of travel charges collected> <total discount given>
- <PASSENGER_TYPE with highest count from CENTRAL> <passenger type count>
- <PASSENGER_TYPE with second highest count from CENTRAL> <passenger type count>
- <PASSENGER_TYPE with least count from CENTRAL> <passenger type count>

Sample Input/Output 1

INPUT	OUTPUT
BALANCE MC1 600 BALANCE MC2 500 BALANCE MC3 50 BALANCE MC4 50 BALANCE MC5 200 CHECK_IN MC1 ADULT CENTRAL CHECK_IN MC2 SENIOR_CITIZEN CENTRAL CHECK_IN MC1 ADULT AIRPORT CHECK_IN MC3 KID AIRPORT CHECK_IN MC4 ADULT AIRPORT CHECK_IN MC5 KID AIRPORT PRINT_SUMMARY	TOTAL_COLLECTION CENTRAL 300 0 PASSENGER_TYPE_SUMMARY ADULT 1 SENIOR_CITIZEN 1 TOTAL_COLLECTION AIRPORT 403 100 PASSENGER_TYPE_SUMMARY ADULT 2 KID 2

Each person's total charges are sorted in ascending order of their metro card number.

Explanation

Amount collected at Central	200 (MC1) + 100 (MC2)	300
Amount collected at Airport	100 (MC1 Return) + 50 (MC3) + 200 (MC4) + 3 (2% Service Fee for recharge of 150 for MC4) + 50 (MC5)	403

Sample Input/Output 2

INPUT	OUTPUT
BALANCE MC1 400 BALANCE MC2 100 BALANCE MC3 50 BALANCE MC4 50 CHECK_IN MC1 SENIOR_CITIZEN AIRPORT CHECK_IN MC2 KID AIRPORT CHECK_IN MC3 ADULT CENTRAL CHECK_IN MC1 SENIOR_CITIZEN CENTRAL CHECK_IN MC3 ADULT AIRPORT CHECK_IN MC3 ADULT CENTRAL PRINT_SUMMARY	TOTAL_COLLECTION CENTRAL 457 50 PASSENGER_TYPE_SUMMARY ADULT 2 SENIOR_CITIZEN 1 TOTAL_COLLECTION AIRPORT 252 100 PASSENGER_TYPE_SUMMARY ADULT 1 KID 1 SENIOR_CITIZEN 1

Explanation

Amount collected at Central	200 (MC3) + 3 (2% Service Fee for recharge of 150 for MC3) + 50 (MC1 Return) + 200 (MC3 2nd Onward) + 4 (2% Service Fee for recharge of 200 for MC3) +	457
Amount collected at Airport	100 (MC1) + 50 (MC2) + 100 (MC3 Return) + 2 (2% Service Fee for recharge of 200 for MC3) +	252

