

Q4 : Food Delivery Booking

A food delivery company has 'n' number of delivery executives. For simplicity take the count as 5 but the program should work for any number of delivery executives (Let their names be identified as DE1, DE2....DE-n)

There are only 5 restaurants in the city for pick-up and 5 drop locations (Each location can have multiple customers)
After delivering a food package , the delivery executive waits there for delivery allotment.

Each customer is identified uniquely by a Customer-ID

Write a program that does the following :

Constraints :

- 1.Delivery charge for every single order is Rs 50 for the delivery executive.
2. If multiple orders (say n) are from the same delivery location within 15 mins period, combine orders to a maximum of 5 per delivery executive.
In such case, the delivery charge will be base rate Rs.50 + Rs.5 for every other order ($50 + 5 * (n-1)$).
3. An allowance of Rs.10 will be given for every trip made. Combined orders will be counted as a single trip.
4. Assign the subsequent bookings giving preference to the executive who has earned the least delivery charge among the other available delivery executives excluding trip allowance.
5. Every trip will take 30 mins to reach the destination.

Questions :

1. Write a function to handle booking.
2. Write a function to assign delivery executive
3. Write a function that can display delivery executive's activity thus far.
This should contain commission earned , allowance earned(calculated based on criteria 2 and 3).

Input 1

Customer ID: 1
Restaurant: A
Destination Point : D
Time : 9.00 AM

Output

Booking ID : 1

Available Executives :

Executive	Delivery Charge Earned
DE1	0
DE2	0
DE3	0
DE4	0

DE5 0

Allotted Delivery Executive: DE1

Input 2

Customer ID: 2
Restaurant : B
Destination Point : A
Time : 10.00 AM

Output

Booking ID : 2

Available Executives :

Executive	Delivery Charge Earned
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DE1	50
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DE2	0
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DE3	0
-----	---

DE4	0
-----	---

DE5	0
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Allotted Delivery Executive: DE2

Input 3

Customer ID: 3
Restaurant : B
Destination Point : A
Time : 10.10 AM

Output

Booking ID : 3

Available Executives :

Executive	Delivery Charge Earned
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DE1	50
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DE2	50
-----	----

DE3	0
-----	---

DE4	0
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DE5	0
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Allotted Delivery Executive: DE2 (because same location within 15mins)

Input 4

Customer ID: 3
Restaurant : D
Destination Point : C
Time : 10.35 AM

Output

Booking ID : 3

Available Executives :**Executive Delivery Charge Earned**

DE1 50

DE2 55

DE3 0

DE4 0

DE5 0

Allotted Delivery Executive: DE3

Delivery History**Output**

TRIP	EXECUTIVE	RESTAURANT	DESTINATION POINT	ORDERS	PICK-UP_TIME	DELIVERY_TIME	DELIVERY CHARGE
1	DE1	A	D	1	9:15	9:45	50
2	DE2	B	A	2	10:15	10:45	55
3	DE3	D	C	1	10:50	11:20	50

Total earned

Executive	Allowance	Deliver Charges	Total
DE1	10	50	60
DE2	10	55	65
DE3	10	50	60