1) Design a Call taxi booking application

-There are n number of taxi’s. For simplicity, assume 4. But it should work for any number of taxi’s.

-The are 6 points(A,B,C,D,E,F)

-All the points are in a straight line, and each point is 15kms away from the adjacent points.

-It takes 60 mins to travel from one point to another

-Each taxi charges Rs.100 minimum for the first 5 kilometers and Rs.10 for the subsequent kilometers.

-For simplicity, time can be entered as absolute time. Eg: 9hrs, 15hrs etc.

-All taxi’s are initially stationed at A.

-When a customer books a Taxi, a free taxi at that point is allocated

-If no free taxi is available at that point, a free taxi at the nearest point is allocated.

-If two taxi’s are free at the same point, one with lower earning is allocated

-Note that the taxi only charges the customer from the pickup point to the drop point. Not the distance it travels from an adjacent point to pickup the customer.

-If no taxi is free at that time, booking is rejected.

Design modules for

1) Call taxi booking

Input 1:

Customer ID: 1

Pickup Point: A

Drop Point: B

Pickup Time: 9

Output 1:

Taxi can be allotted.

Taxi-1 is allotted

Input 2:

Customer ID: 2

Pickup Point: B

Drop Point: D

Pickup Time: 9

Output 1:

Taxi can be allotted.

Taxi-2 is allotted

(Note: Since Taxi-1 would have completed its journey when second booking is done, so Taxi-2 from nearest point A which is free is allocated)

Input 3:

Customer ID: 3

Pickup Point: B

Drop Point: C

Output 1:

Taxi can be allotted.

Taxi-1 is allotted

2) Display the Taxi details

Taxi No: Total Earnings:

BookingID CustomerID From To PickupTime DropTime Amount

Output:

Taxi-1 Total Earnings: Rs. 400

1 1 A B 9 10 200

3 3 B C 12 13 200

Taxi-2 Total Earnings: Rs. 350

2 2 B D 9 11 350