Assignment 3

As an Intern in **Make My trip** you have a responsibility of Admin to maintain their system to work smoothly and be clean. The travel site provides travelling in three different mode Air, Rail, Bus. To book a ticket the User should be registered. The User can choose the mode of travel and then fill the various details about the trip. There are different companies who offer Air (GoAir, Indigo, Vistara, etc.) and Bus (Rajdhani, R.S Yadav, etc.) travel but the Rail travel is only provided by IRCTC. All the Company should also register in the system to make themselves available for users to book a trip. After the ticket is booked the summary is shown to the User. The user can view his profile and travel history.

1. Identify and create all the possible **classes** and **interfaces** that need to be made. For example, there is an interface “Journey”, which has a method named “Planner” declared in it. Planner takes 3 parameters “Source”, “Destination” and “Date”. Identify all such interfaces and implement them.
2. Define the various attributes of each class by using appropriate data types. Create the methods needed to perform different tasks such as registering the company in the System. Identify and define all such methods with appropriate return type and parameters. Try to make the system as complete as possible.
3. Create a hierarchy of the identified classes and recognise how the classes interact with each other. Try to identify all the possible relationships (like inheritance, association and aggregation) and implement these relationships with the help of objects. Also, handle the exceptions in the code as is suitable.
4. The System should be able to show all the Users, Companies and their details to the Admin. The System also provide discount Coupons for Users. The Coupons are added either by the Admin or when a specific Company offers it.

**Bonus**:

Ticket Cancellation: Before cancelling a ticket, check the refund amount and cancellation charges, and display it to the user. If the user proceeds to cancel the ticket, then display the message for ticket cancellation. The cancellation charges will be calculated based on the following policy:

1. For Flights: Rs. 400 will be deducted as the cancellation charges.
2. For Buses: Rs 80 will be deducted as the cancellation charges.
3. For Trains: Rs 60 will be deducted as the cancellation charges.

*Note: This policy applies only to the cancellations done at least one day before the journey date. If the cancellation is done on the date of journey, then no amount will be refunded.*

**General Instructions**:

1. Make assumptions if required and submit them in a separate file.
2. Create proper README file for the assignment. This file should contain a description of the usage of all non-trivial functions used in the code.
3. The code files, the assumption files, and the README file should be zipped together and uploaded on Backpack. The naming convention to be followed is: A3\_FirstName\_RollNo.
4. Plagiarism policy applies