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Title: Air Travelling

Airline Class //Parent Class
Properties
- String name - int rating - double [] pricing
Methods
+ String getName() + int getRating() + double getPrice() + String toString()

RewardAirlines extends Airline //Subclass. Have reward system
Properties
- double tier - String [] rewardTiers
Methods
+ double getTier() + void setTier(double t) + String [] getRewardList() + void rescheduleFlight() + void earlyBoarding() + String toString()

TierAirlines extends Airline //Subclass. Different tiered seats
Properties
- int tier - double [] pricing - String [] tierFeatures
Methods
+ void setTier(int t) + int getTier() + double getPrice() + String [] getTierFeatures() + String toString()

FlexAirlines extends Airline //Subclass. Have flex pricing
Properties
- boolean powerSocket - boolean privateTV - boolean recliningSeat - boolean wifi - double [] pricing
Methods
+ void setPowerSocket() + void setPrivateTV() + void setRecliningSeat() + void setWifi() + double getPrice() + String toString()

The Airline class serves as the parent class for RewardAirlines class, TierAirlines class, and FlexAirlines class. The Airline class contains name, rating, and pricing property. The name property will be used to store the name of the Airline company, rating will store its rating, and the pricing will store its base pricing list. Each of the properties are provided with a getter method, and a toString method to print the Airline data easily.

The RewardAirlines class is a subclass that represents Airlines with a reward system for its customers. It contains two additional properties, which is tier property that stores current reward tier, and rewardTiers property that lists different tiers of rewards. Each of them came with their own getters while tier property came with its own setter. Two additional methods specific to the subclass, which is the rescheduleFlight and earlyBoarding methods, which serves as a reward for the customer based on their tier in the rewardList. The toString method from the parent class will be overridden with the subclass version to reflect on these changes.

The TierAirlines class adds different tiered seats to the Airline class. The property included are the tier property that shows the selected seat tier, the tierFeatures property that list a comparison between the tiers, and the pricing property that overrides the pricing property on the parent class due to the different pricing models. Methods included are the getter and setter for the tier property, getPrice method that calculates the price for the selected tier, the getTierFeatures method to get the comparison between the tiers, and a new toString method to reflect these changes.

Finally, FlexAirlines class contains several extra features that can be added by paying extra fees. This means the class also came with its own pricing model that overrides the one in the parent class. Extra features provided by these airlines have their own properties that can be added or removed from the fee. Thus each feature came with its own mutator. The getPrice method calculates the new price based on added features. The new toString method reflects all of these changes.

All of the subclasses can be extended even further with each other to introduce or mix and match different variations of the same pricing model.