202 Individual Project
Fall – 2020
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Q1. Describe what is the primary problem you try to solve.

The primary problem we are trying to solve is that to classify the type of credit card based on the credit card number. Rules for the classification are followed as per the requirements.

Q2. Describe what are the secondary problems you try to solve

The secondary problem we are trying to solve is of that to extract the data from the file. Three file types need to be parsed - xml, json and csv and the output needs to be written in the same format of input file.

Q3. Describe what design pattern(s) you use how

Three design patters are used to solve the above problems:
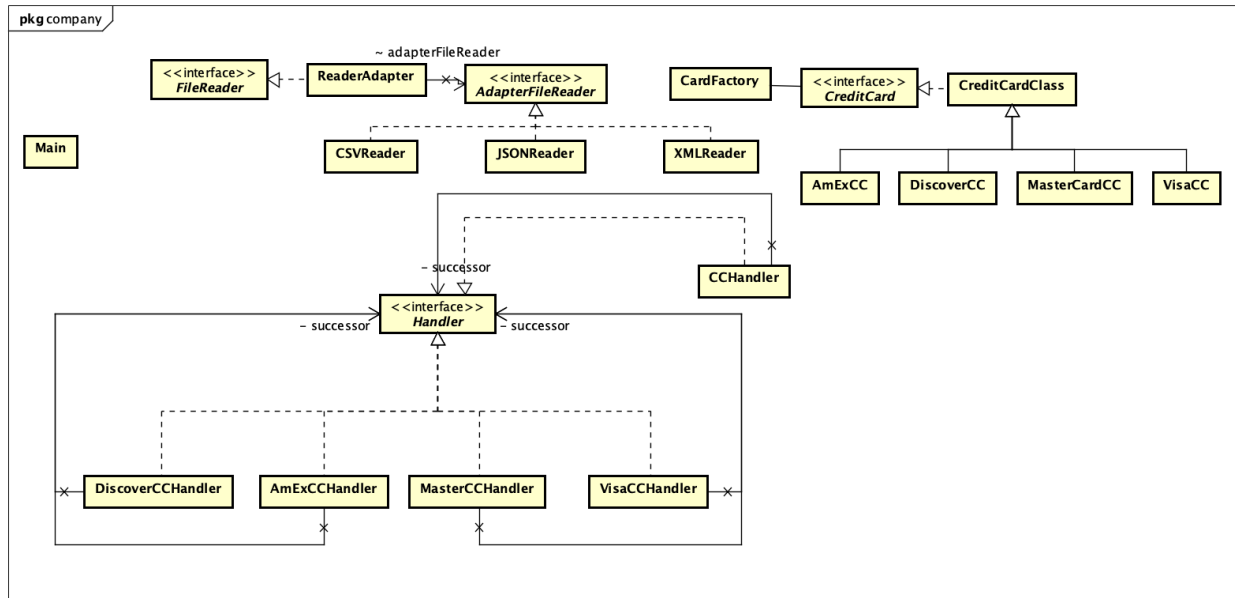
Chain of Responsibility Design Pattern

This design pattern has been used to validate the card type using the card number. Rules for returning the card type are provided in the requirement.

Simple Factory Design Pattern

This design pattern is used to return objects of a particular credit card class from the results obtained in Chain of responsibility pattern.

Adapter Design Pattern

This design pattern is used to read card numbers from different file types and write in the same format new file types

Q4. Describe the consequences of using this/these pattern

Adapter Design Pattern:

Using adapter design pattern will enable us to add new file types on the go.

Chain of Responsibility Design Pattern:

This design pattern will enable us to change the logic behind choosing a card type without causing any change to other classes.

Simple Factory Design Pattern:

New card types can be added in case new companies come into the market.