CMPE 202-Credit Card Problem

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| Priyanka Devendran | 015231411 |

**GitHub Repo:** https://github.com/gopinathsjsu/individual-project-prideven

**Primary problem I’m trying to solve:**

To find out the card type for the different input cards present in the file.

**How I solved the problem:**

By implementing **Factory Method** design pattern.

Diagram

Description automatically generated

Factory design pattern helps in the following:

* Helps in creating the object without exposing the creational logic to the client.
* It also provides abstraction between the implementation and client classes through inheritance.
* The object is created depending on the input value.

**Consequence of using Factory Method:**

* Helps in reducing application specific classes in our code.
* Makes the classes easily to extend or enhance if needed.

**Secondary problem I’m trying to solve:**

To create an object for the different types of input passed, here we are handling (xml, csv and json files)

**How I solved the problem:**

By using **Strategy Design Pattern** used:

Diagram

Description automatically generated

Strategy design pattern helps in the following:

* It makes the code future oriented that is it can be extended if any other type of input files are sent without the context entity.
* Supports different types on input files.

**Consequence of using the pattern:**

* Class type to be executed is decided dynamically during run time depending on the file type.
* Classes are loosely coupled ,allowing to extend the classes further if any more file type needs to be handled in future.

Overall Class Diagram:

Diagram

Description automatically generated

**Steps To Run and Test files:**

* Clone the repsoitory.
* Import the gson and json jar files to the project library.
* Build the java files and obtain the class files.
* Naviagte to Project1 folder and Run the MainTest class file as given below.
* In order to run the Application using the CSV File, the command to run the main class is: java card.MainTest inputfile outputfile
* To run the Application using the XML File, the command to run the main class is: java card.MainTest inputfile outputfile
* To run the Application using the JSON File, the command to run the main class is: java -cp .:/SourcePath/Project1/out/artifacts/Project1\_jar/Project1.jar card.MainTest inputfile outputfile

**The Junit test for each classes can be found in the folder:**

<https://github.com/gopinathsjsu/individual-project-prideven/tree/master/Test/card>