**Sequential Diagrams**

1. Syntax Scanner

SyntaxScanner

SyntaxScannerTest

W Read the configured brackets from patternConfigurationFile.txt and load into Hashmap

SyntaxScanner.isBalancedString(Input)

W Check whether the input is null or not

Return true for valid syntax else false

Throw an Exception for null input

W Validate the corresponding pairs of brackets  
with help of Deque implementation

1. Movie Recommender

Return moive suggestion

W Movies are selected based on Binary  
search algorithm

W return Movies Array

W Read the Movie.JsonFile and Populate  
movies Array

W JSONFileReader.readMovieFile()

W Check whether the input is null  
 or not

Throw an Exception for null input

MovieRecommender.  
getMovieSuggestions  
(flightTiming)

MovieRecommenderTest MovieRecommenderTest

JSONFileReader

Movie

MovieRecommender

1. Sales Tax

D ShoppingApplication

D InvoicePrinter

D TaxDecorator

D ShoppingApplicationTest

Create ProductItem Objects

ShoppingApplication.  
shopProduct(Product)

Add the incoming products  
into ShoppingCart(ShoppingCart.  
addToCart

ShoppingApplication.  
getInvoice()

printBill

Decorate TaxDecorator with ImportTaxCalculator for import Tax and   
SalesTaxCalculator for SalesTax

calculateTotal

Prints output like shopped Items, price, total price and sales tax

Return accumulated price with tax

calculateTax