Technical Report for Programming Portfolio

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# Introduction

During this assessment we will be using the waterfall lifecycle methodology to aid the development of this project. The waterfall lifecycle methodology includes 5 stages, Analysis, Design, Implementation, Evaluation and Maintenance.

# Analysis

According to the assessment specification there are two parts to this project. Part one is to create a java library with specific method that help towards converting dates and currencies while implementing the interface given from the specification. Part 2 is the java application that gets run and that the user interacts with to choose certain requirements for the program.

## Part 1

There are five certain method that need to be in this in this library according to the interface we are trying to implement:

1. loadDateFormats method

* should store the values of different date formats for different regions.

1. localiseDate method

* should convert the dates defined in pattern “D[\*]” from input format to output format. The method should return the localised text when all the variables have been converted.

1. loadCurrencyFormats method

* should store the values of different currency formats for different regions.

1. localiseCurrency method

* should convert the currencies defined in pattern “C[\*]” from input format to output format. The method should return the localised text when all the variables have been converted.

1. localise method

* should look through the text to find patterns of the form “D[\*]” for dates and “C[\*]” for currencies and localise their values by using localiseDate and localiseCurrency methods. The method should return the localised values when all patterns have been converted.

## Part 2

The main application that the user runs. This application allows the user to specify:

* Input format
* Input text file
* Output format
* Output folder
* Output filename

Using the parameter that the user specified that application used use the method localise from text localiser library created from part 1 to convert the input text file variables to the correct output format then create the output file and with the same content as the input file but with the correct variables.

# Design

Localise method:

* Inputs:
  + Input format
  + Output format
  + Input text
* Process:
  + Searches through input text using regular expressions to find the dates in the input text
  + Goes through each date found and calls the localiseDate method
  + Keeps track of how many dates are found
  + Creates a String with number of dates then the dates that have been converted all separated by a denominator.
  + Searches through input text using regular expressions to find the currencies in the input text
  + Goes through each date found and calls the localiseCurrency method
  + Keeps track of how many currencies are found
  + Creates a String with number of currencies then the currencies that have been converted all separated by a denominator.
* Outputs:
  + When all values of dates and currencies have been converted create a new string that combines the two string above split by the same denominator and return the value.

localiseDate method:

* Input:
  + Input format
  + Output format
  + Input text
* Process:
  + Find the delimiter value of the input text
  + Split the input using the delimiter value into day, month and year
  + Create an empty map then use the loadDateFormats method to add all the values
  + Get the input format’s date format, find the delimiter and split
  + Get the output format’s date format, find the delimiter and split
  + Create an empty map
  + In the map assign the split values of the input text to the corresponding split input format values
  + Find out if the year is 2 digits or 4 digits, then add or subtract accordingly
  + Create a new string “Localised date” with the output fields in the right order
* Output:
  + localisedDate

localiseCurrency method:

* Input:
  + Input format
  + Output format
  + Input text
* Process:
  + Create a map with every combination of country and exchange rate
  + Use the input format and output format to get the exchange rate value from the map
  + Multiple the input text with the exchange rate to get final value
  + Create a map that has all the symbol locations on it
  + Create an empty map the use the loadCurrencyFormats into that map
  + Use these two maps to create a new string “localisedCurrency” with the correct symbol in the correct position with the correct amount
* Output:
  + localisedCurrency

loadDateFormats method:

* Input:
  + Pre-created map
* Process:
  + Add the hard-coded values for the date formats of each country

loadCurrencyFormats method:

* Input:
  + Pre-created map
* Process:
  + Add the hard-coded values for the currency formats of each country

# Implementation

# Evaluation

# Maintenance

# Conclusion

# References

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# Appendices