

Context

Landbay is in the peer-to-peer business. As part of this, when a borrower applies for a mortgage and Landbay provides an offer, Landbay needs to be able to guarantee that we have enough investment from our investors to fund the borrowers mortgage. In order to do this, we allow our lenders to request investments.

You have been given two files:

- investments.csv. In this file, you will find a number of requests that investors have made. For example, line 1 means "Alice wants to invest £100 for up to 12 months in the FIXED product". Each line represents a separate request that was placed on the Landbay platform.
- loans.csv. In this file, you will find a number of loans that Landbay would like to find funds for. Initially no loan has any investment against it. The amount field simply shows the amount the borrower wishes to borrow. We must match every penny on this amount with investor funds.

Please write a program that will match the investments to the loans following the business rules listed below. The program should be written in Java. Once the program has run, the program must output the loans that are fully funded, the names of the people funding the loans and the amount of money they have invested in the loan.

- A valid "funded" loan must be fully funded from the investments.csv file. If a loan does not have all the funds necessary, then it cannot qualify.
- Partially funded loans are of no value to Landbay (we can't give our borrowers less money than they need to buy the property)
- Over-funded loans are also not useful (we can't give our borrowers more money than they want as this means they will have to eventually pay more interest).
- If someone wants to invest in TRACKER, you can't place their money into a Loan that is FIXED - and vice-versa.
- Loans should be processed in the order of their completed date (oldest to newest)
- The term of the investment must be greater than the term of the loan (i.e. the investor needs to be willing to put money in for longer than the loan needs it for).

Technical requirements

- The input can be hard coded
- Everything can be done in memory. There is no need to write the result to a database, a file, etc.
- This is an opportunity to demonstrate your understanding of OOP

Bonus points for

- If it's easy to extend the matching rules (the rules you run to match an investment to a loan)
- Produce a JSON representation (using some library) of the result when you print it out
- Read in the CSV files from disk. We sometimes use <http://opencsv.sourceforge.net/> internally but you can use whatever means you find easiest