Task

Target

Implement an algorithm that calculates the value of a portfolio for a given investor on a given date.

Description

Your client manages portfolios of different investors. Each investor is invested in various investments of different types, e.g. stocks, real estate, funds, whereby funds themselves are invested in investments of different types. The customer now wants to be able to use the algorithm to determine the value of an investor's portfolio for a specific date.

The value of a portfolio is made up of the value of the individual investments. The different investment types determine their value as follows:

- The value of a share is determined by the number of shares invested multiplied by the share price.
- For a property, the value is made up of the land value and the building value.
- The value of an investment in a fund is calculated as the percentage invested in the fund multiplied by the value of the fund, with the value of the fund being determined as the sum of the values of the investments it contains.

Input

There are three different CSV files as input, the content of which should be read:

Investments

This includes the assignment of the various investors to their investments and the investments of the funds.

Transactions

This includes the transactions of the investments. For shares, this is the number of units bought or sold (type "Shares"), for real estate the initial or changed property value (type "Estate") or the initial or changed building value (type "Building"), and for funds the purchased value or sold percentage of the fund (Type "Percentage").

Quotes

It contains the price history of the shares. Attention: There is not a market value on every day.

Task

Write a console application in C# (or Java) that expects the investor and the reference date as input parameters via console entries and calculates the value of the given investor's portfolio on the given reference date. The skeleton of the main method can be found in the following code snippet:

```
static void Main(string[] args)
{
    /* your code here */

    var line :string  = Console.ReadLine();
    while (!string.IsNullOrWhiteSpace(line))
    {
        var input :string[]  = line.Split( separator: ";");
        var date = DateTime.Parse(input[0]);
        var investorId :string  = input[1];

        /* your code here */
        Console.WriteLine(/* your code here */);
        line = Console.ReadLine();
    }
}
```