Rate of return

The rate of return r of a single financial asset over a period is the interest obtained at the end of period by investing on it.

Example

If the rate of return over a single period is $r = 0.05$ and we invest a quantity $S = 1000$ euro at the beginning of the period, the final value of our portfolio is $V = (1 + r)S = 1050$ euro at the end of the period.

Requirements

sum_1^n w_iS(1+r)=V

Let us assume that, at the beginning of the period, we invest a total sum S over n assets with rate of return r_i, by allocating a fraction w_i of S in the i-th asset.

Write a program which reads the data from a file of name **data.csv** of the following format:

```
S;1000
n;8
w;r
0.05;0.1
0.2;0.01
0.12;0.05
0.18;0.02
0.15;0.02
0.15;0.05
0.1;0.01
0.05;0.03
```

and computes the rate of return and the final value of the whole portfolio by exploiting C-Style arrays.

The read data and the result must be printed on the screen and on a file named "result.txt".

The export format is:

```
S = 1000.00, n = 8
w = [ 0.05 0.2 0.12 0.18 0.15 0.15 0.1 0.05 ]
r = [ 0.1 0.01 0.05 0.02 0.02 0.05 0.01 0.03 ]
Rate of return of the portfolio: 0.0296
V: 1029.60
```

Remark: S and V must be printed in decimal notation with 2 digits of precision by keeping *trailing* zeros.