

ACSL
American Computer Science League

ACSL Chart

PROBLEM: The below chart is a conversion chart for converting to and from units of measure A, B, C, D and E.

	A	B	C	D	E
A	1				
B	2	1	3		
C			1	4	
D				1	
E				5	1

Although the chart is not now complete, it is possible to complete the chart with just the given values, since all chart values are proportional.

INPUT: There will be 14 lines of input. The first 4 lines will each contain a 2-character alpha string location (row-column order) and a positive rational number at that location. The next 10 lines will each contain a 2-character alpha string location.

OUTPUT: For each 2-character alpha string location given on lines #6 - 14, print the correct chart value. All printed values must be rounded to 2 decimal places. All printed values must have exactly 2 decimal places. All printed values must have a whole number part. Note a chart value of .50000 must be printed as 0.50. In standard arithmetic rounding, 0 - 4 leaves the digit to the left alone and 5 - 9 increases that digit by 1.

SAMPLE INPUT

1. BA, 2
2. BC, 3
3. CD, 4
4. ED, 5
5. AB
6. AE
7. AD
8. BD
9. CA
10. CE
11. DB
12. DC
13. EA
14. EC

SAMPLE OUTPUT

1. 0.50
2. 1.20
3. 6.00
4. 12.00
5. 0.67
6. 0.80
7. 0.08
8. 0.25
9. 0.83
10. 1.25

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TEST DATA

TEST INPUT

1. AB, 0.0648
2. CA, 24.0000
3. EB, 28.3495
4. DE, 1.0971
5. AA
6. AC
7. BA
8. BD
9. CB
10. CE
11. DC
12. DA
13. EC
14. ED

TEST OUTPUT

1. 1.00
2. 0.04
3. 15.43
4. 0.03
5. 1.56
6. 0.05
7. 20.00
8. 479.97
9. 18.23
10. 0.91