Printf Parser

In this task you have to parse a C language printf statement and print the output that will be produced on executing that statement in C. The statement will be of type printf("A",A1,A2,A3.....); where A consists of small latin alphabets, whitespaces and following format specifiers (whitespaces will be present only in A):

%d - signed decimal integer

%c - character

%f - decimal floating point(6 digits after decimal point)

%s - character string

A1, A2, A3 ... are the arguments passed to printf statement and they will be equal to number of format specifiers mentioned. Their argument type will be same as that of format specifier i.e if specfier is '%c' the corresponding argument will be a character only. Input will always have at least one format specifier.

Input

First line of input contains a positive integer T denoting number of test cases. Following T lines have a valid printf statment containing less than 500 characters.

Output

Print the corresponding output given by the printf statement.

Example

Input:
2
printf("%c %d%f",'L',123,4.5);
printf("hello %f world %d nice %f computer %c is easy %s",2.34123245231,100,1.41414141,'S',"problem");

Output:
L 1234.500000
hello 2.341232 world 100 nice 1.414141 computer S is easy problem

Score : Source Code Length