

STA Online Computer Programming Contest (DWITE)
November 2003

Problem 5

Resistor Colour Code

Some electronic resistors have their values marked by three painted colour bands. These bands make up a colour code that represent the value in ohms (the ohm is the unit) of the resistor.

The values of the colours are as follows:

BLACK = 0	BROWN = 1	RED = 2	ORANGE = 3	YELLOW = 4
GREEN = 5	BLUE = 6	VIOLET = 7	GREY = 8	WHITE = 9

The first two colour bands make up a two-digit number, and the third colour band is a power of ten. For example an ORANGE-BROWN-YELLOW resistor has the value $31 * 10^4 \text{ S (ohms)} = 310\,000 \text{ S (ohms)} = 310 \text{ kS (kohms)}$.

Colour	Value of First Digit	Value of Second Digit	Multiplier
Black	0	0	$10^0 \text{ S} = 1 \text{ S}$
Brown	1	1	$10^1 \text{ S} = 10 \text{ S}$
Red	2	2	$10^2 \text{ S} = 100 \text{ S}$
Orange	3	3	$10^3 \text{ S} = 1 \text{ kS}$
Yellow	4	4	$10^4 \text{ S} = 10 \text{ kS}$
Green	5	5	$10^5 \text{ S} = 100 \text{ kS}$
Blue	6	6	$10^6 \text{ S} = 1 \text{ MS}$
Violet	7	7	$10^7 \text{ S} = 10 \text{ MS}$
Grey	8	8	Not Applicable
White	9	9	Not Applicable

The input file (DATA5) will contain five sets of data. Each set will contain three lines of data. The first line will contain the colour of the first digit. The second line will contain the colour of the second digit. The third line will contain the colour of the power of ten or the multiplier.

The output file (OUT5) will contain five lines of data, corresponding to each set of the input file. The line will contain the value of the resistor, between 1 and 990, and its unit, either "ohms", "kohms" or "Mohms", separated by a single space.

Sample Input (Three sets of data given)	Sample Output
ORANGE	310 kohms
BROWN	320 ohms
YELLOW	31 Mohms
ORANGE	
RED	
BROWN	
ORANGE	
BROWN	
BLUE	