

# 1992 ACM MID-CENTRAL REGIONAL

## PROGRAMMING CONTEST

### Problem #6 : Cha-Ching! Calculator

Program File: **MATH.PAS** or **MATH.C**  
Input File: **MATH.IN**  
Output File: **MATH.OUT**

For this problem you are to evaluate math expressions written in English. All numbers will be integers in the range zero to ninety-nine. The operators supported are plus, minus, times, and div, with all math being performed using integer math and the usual precedence rules ((), times, divide, plus, minus, in that order). Your task is to read in an expression, perform the indicated operations and print an answer. If the answer is between zero and ninety-nine, then the answer should be printed out in English. If the answer is outside of this range, however, then the answer should be given as "a suffusion of yellow". If the name of an integer requires more than one word, a hyphen is used to connect the two words. For example, the names of the numbers 29 and 83 are twenty-nine and eighty-three. All integer names, operators, and parentheses are separated from each other by exactly 1 space.

The input file, **MATH.IN**, contains one expression per line. Your program should continue to read and evaluate expressions until the end-of-file is detected.

The output file, **MATH.OUT**, should contain the answers for all the expressions found in the input file. The form of the answer should be either a number printed out in English or the phrase "a suffusion of yellow".

For example, if the input file contained the lines:

```
ninety-nine minus thirty plus forty
nine times ( fifteen div four )
one plus two times ( three minus ( one plus one ) )
```

The output should contain the lines:

```
a suffusion of yellow
twenty-seven
three
```