

## Stack Script

Design a program that will interpret a simple stack oriented script language. The script language starts with data declarations followed by commands. Data declarations are one to a line in the format

`variablename number`

where `variablename` is the name of a program variable. Program variables are case insensitive and may contain only letters. The number is an integer value. There may be up to 16 lines declaring variables. The end of the variable list is denoted by a line containing only “`program`”. Following the program line are executable statements. There are seven possible statements

- `push var` Push the value of the specified variable onto the stack.
- `pop var` Remove the top of stack value and store it in the specified variable.
- `add` Add the top two values on the stack. Remove the two values on top of the stack and store the addition result on the stack.
- `sub` Subtract the top of the stack value from the value immediately below the top of the stack. Remove the two values on top of the stack and store the subtraction result on the stack.
- `mult` Multiply the top of the stack value with the value immediately below the top of the stack. Remove the two values on top of the stack and store the product result on the stack.
- `div` Divide the top of the stack value by the value immediately below the top of the stack. Remove the two values on top of the stack and store the division result on the stack.
- `display` Display “Top of stack:” followed by the value of the top of the stack.

There may be up to 256 program statements. The end of the program statements is denoted by a line containing only “`end`”.

Your program is to execute a program written in this stack script language. The script programs are written by Computer Science faculty, so there are no errors in them. There will be no undeclared variables and no stack overflows or underflows.

### Example input

```
dog 5
cat 3
bird 11
program
push bird
push cat
push dog
display
sub
add
display
end
```

### Example output

```
Top of stack: 5
Top of stack: 9
```