```c
/**
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Only works with integers but can be extended to doubles. Will need some fiddling in decode_number.
Use Ctr+D to simulate EOF
**/

#include <string.h>
int compute(int oper1, int oper2, char op)
{
    switch (op)
    {
    case '+':
        return oper1 + oper2;
        break;

    case '-':
        return oper1 - oper2;
        break;

    case '*':
        return oper1 * oper2;
        break;

    case '/':
        return oper1 / oper2;
    }
}

int decode_number(char *s, int token_length)
{
    int ret = 0;

    for (int i=0; i<token_length; i++)
    {
        ret = ret * 10 + (s[i] - '0');
    }

    return ret;
}

int is_number(char *s, int token_length)
{
    return (token_length > 1 ||
        (s[0] >= '0' && s[0] <= '9'));
}

int main (void)
{
    char token[1024];

    int stack[1024];
    int stack_size = 0;

    while (scanf("%s", token) == 1)
    {
        int cur_token_length = strlen(token);
        printf("On %s with length %d\n", token, cur_token_length);

        if (is_number(token, cur_token_length))
        {
            stack[stack_size++] = decode_number(token, cur_token_length);
        }
        else
        {
            if (stack_size < 2)
            {
                printf("Invalid sequence - not enough numbers in stack.\n");
```

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69                  return 1;
70              }
71
72              int to_write = compute(stack[stack_size-2], stack[stack_size-1],
    token[0]);
73              stack_size -= 2;
74
75              stack[stack_size++] = to_write;
76          }
77      }
78
79      if (stack_size != 1)
80      {
81          printf("Invalid sequence - stack size is %d at the end.\n",
    stack_size);
82          return 1;
83      }
84
85      printf("%d\n", stack[0]);
86  }
```