

Homework 4, week 7

Chapter 4 Functions and program structure

1. **Extend the following atof function to handle scientific notation of the form 123.45e-6 where a floating-point number may be represented by a number followed by e or E and an optional signed exponent.**

```
#include <ctype.h>
/* atof: convert string s to double */
double atof_(char s[])
{
    double val, power; int i, k, sign;
    for (i = 0; isspace(s[i]); i++) /* skip white spaces */
        ;
    sign = (s[i] == '-') ? -1: 1;
    if (s[i] == '+' || s[i] == '-') i++;
    for ( val = 0.0; isdigit(s[i]); i++)
        val = 10.0 * val + (s[i] - '0');
    if ( s[i] == '.')
        i++;
    for (power = 1.0; isdigit(s[i]); i++) {
        val = 10.0 * val + ( s[i] - '0');
        power *= 10.0;
    }
    return sign * val/power;
}
```

2. **Write a recursive version of the function reverse(s), which reverses the string s in place.**

For all problems, please report your source code together with a couple of examples showing how you have tested the accuracy of your programs.

Turning in your homework

Please hand in a hard copy of your homework report. The homework report should be handed in before the class start on April 15nd, 2014.

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独立作业承诺：（请选择一个，并签名）

1. 本人，_____，保证本次作业由自己独立完成。

签名

时间 年 月 日

或者

2. 本人，_____，保证本次作为和_____同学讨论后，由自己独立完成。
讨论内容包括_____

签名 _____，

时间 年 月 日