

# Homework 2

*Due: 1 Apr 2009*

## Problem 2.1

Consider the following mysterious C code:

```
#include <stdio.h>

void fun1(int a, int *b, int *c)
{
    a = 1;
    *c = *b;
    fun2(&a, &c);
}

void fun2(int *s, int **t)
{
    *s = 2;
    **t = 3;
    /* HERE */
}

int main()
{
    int x, y, *z;

    x = 4;
    y = 5;
    z = &y;

    fun1(x, &x, z);

    printf ("%d %d %d\n", x, y, *z);
    return 0;
}
```

Answer the following:

- a. Compiling this code gives the following warning:

```
test.c:11: warning: conflicting types for 'fun2'  
test.c:7: warning: previous implicit declaration of 'fun2' was here
```

Explain what this message means and how to make it go away.

- b. Draw a memory diagram showing the contents of each variable (using arrows for pointers as in class) immediately before `fun2` returns (i.e. at the comment `/* HERE */`)? (If it helps, the program's output is "4 3 3", but the boxes and arrows are the important thing to get right here.)