

# Computer Programming: Skills and Concepts

## Tutorial 2

### Week 4 — October 11-15, 2010

#### `descartes.h` and `square.h`

Consider the `square.c` program which we studied in class, and which is available to download from the course webpage.

Revise the program with your tutor, paying special attention to the relationship between the declarations in `descartes.h` and how the commands are used in `square.c`. Also pay attention to *what is done* to the results of a function call.

#### Loops

Consider the following code:

```
int n = 5;
for(int i=0;i<2;i++) {
    printf("computing %d minus %d... ",i,n);
    n = i - n;
    printf("n is %d\n",n);
}
```

What is printed on the screen?



#### Programming

The mathematical operation  $n!$  is defined as  $n! = (n - 1)! * n$  for  $n > 0$  and  $0! = 1$ . Write a program that asks a user for a number  $n$ , complains if that number is negative, and computes and outputs  $n!$  otherwise.



### Programming with `scanf`

Write a program which takes in a series of integers from the screen and calculates the sum of these integers. The user indicates that (s)he is finished by inputting any *non*-integer input.

**note:** You will need to examine the returned value of `scanf` (as discussed at the end of the lecture on Thurs, 8th October) in order to do this.

It is tricky, but satisfying (if you work out how)

