

# SI 413 Fall 2012: Homework 10

**Your name:**

**Due:** Monday, 3 December, before class

**Instructions:** Review the course honor policy for written homeworks.

This cover sheet must be the front page of what you hand in. Fill out the left column in the table to the right after we go over each problem in class, according to the rubric below.

This rubric is also on the website, in more detail, under “Other Stuff” → “Grading Rubrics”.

**Make sure all problems are submitted IN ORDER.**

Problem	Self-assessment	Final assessment
1		
2		
3		

- **5:** Solution is completely correct, concisely presented, and neatly written.
- **4:** The solution is mostly correct, but one or two minor details were missed, or the presentation could be more concise.
- **3:** The main idea is correct, but there are some significant mistakes. The presentation is somewhat sloppy or confused.
- **2:** A complete effort was made, but the result is mostly incorrect. There may be some basic misunderstandings of the topic or the problem.
- **1:** The beginning of an attempt was made, but the work is clearly incomplete.
- **0:** Not submitted.

**Comments or suggestions about this homework:**

**Comments or suggestions about the course so far:**

**Citations** (other students, websites, ...):

Use a separate sheet of paper for your answers! Everything should be submitted in one packet, all printed out for me to see.

## 1 Cooking Spaghetti

In class we talked about “spaghetti code”, which is code that uses GOTO statements way too liberally and becomes almost impossible to follow. I want you to write your own example of spaghetti code, in the C++ language.

**Submit your code electronically** as 413 hw 10 in a file called `ex1.cpp`. Your program should compile and run without any arguments or special flags. **You also need to submit a description of what your code does**, written out and turned in with the other exercises for this assignment.

Grading this problem will consist of me first looking at your code, briefly, and trying to figure out what it does. I will then look at your description of what it actually does and then run it. If your code actually does something, and it’s what you describe, but I couldn’t discern that by looking at it, then you’ll do well on this problem.

It may help to go back and read Dijkstra’s original article on GOTOs.

## 2 Generics

Consider the following very simple class definition in Java:

```
public class AClass<T> {
    T x;

    public AClass() {
        x = new T();
    }
}
```

- a) What error does `javac` give when you try to compile this class?
- b) What does it mean - what specifically is wrong with this code?
- c) Would the equivalent code in C++ using templates work? Why or why not?

## 3 Licenses

Find an open-source software license that is *not* mentioned in the slides and tell me about it.

If you want to search around, there is a fairly comprehensive list at this link and also see the links from Unit 10.

Specifically, I want to know:

- a) What is the name of the license?
- b) Which license category from class does this licence fall into?
- c) How does this license differ from other similar ones?
- d) Do any notable software projects use it?