

## CSEP 590 Spring 2017 Homework 2

**Due: Before class on Tuesday, April 11, 2017**

Please use the Dropbox linked from the CSEP590 web page to submit your homework online. Any common readable document format is fine.

### Problem 1

Consider the following source code snippet:

```
if (y > 0)
    x = x + 1;
while (x > 0) {
    x = x - 1;
}
```

Assume x and y are stack variables located at addresses [ebp-4] and [ebp-8] respectively.

Using the templates from class (see Lecture 2 slides), show a possible generated assembly code sequence.

### Problem 2

Read “Improvements to Graph Coloring Register Allocation”, by Briggs, Cooper, and Torczon:

<https://pdfs.semanticscholar.org/5c71/558e2ba833c97281dbbd63ae90f7277b2081.pdf>

Summarize the paper (0.5-1 pages). Your write-up should cover:

- What deficiencies in Chaitin’s approach were the authors trying to address?
- What approaches did they take?
- Were they successful?
- We will discuss this paper in class next week. In your write-up please include one or more discussion topics or questions that you would like to discuss.