HW 6 – Polymorphic Type Inference
CS 421 – Fall 2015
Revision 1.0

Assigned October 2, 2015
Due October 14, 2015, 23:59 pm
Extension 48 hours (20% penalty)

1 Change Log

1.0 Initial Release.

2 Turn-In Procedure

Answer the problem below, save your work as a PDF (either scanned if handwritten or converted from a program), and hand in the PDF. Your file should be named `hw6-submission.pdf`.

3 Objectives and Background

The purpose of this HW is to test your understanding of how to use typing rules to perform polymorphic type derivations in a functinoal programming language (here with OCaml syntax). Another purpose of HWs is to provide you with experience answering non-programming written questions of the kind you may experience on the midterms and final.

4 Problems

(22 points) Give a complete type derivation for the following typing judgment:

```
let x = 3 in let id = (fun x -> x) in (id id) x
```

As a suggestion for formatting, you may want to name subtrees of the proof and write them out separately. Note that we are asking for a type derivation, and not the intermediate states of a type inferencing algorithm.