

## CSE 341 — General Programming Language Concepts — Mini Exercises

These are questions for discussion in class. (You don't need to hand in anything.) The solutions are on the class web page.

1. Consider the following example in an Algol-like language.

```
begin
integer n;
procedure p(k: integer);
  begin
    k := k+5;
    print(n);
    n := n+(2*k);
  end;
n := 0;
p(n);
print(n);
end;
```

- (a) What is the output when k is passed by value?
  - (b) What is the output when k is passed by value result?
  - (c) What is the output when k is passed by reference?
2. True or false?
    - (a) Haskell is statically typed if the programmer includes a type declaration for all functions; otherwise it is dynamically typed.
    - (b) Java is type safe.
    - (c) Each of the following Haskell expression gives a compile-time type error, since `tail` is being provided a value of the incorrect type:

```
tail []
tail (1,2,3)
```

3. What happens when you try the following Haskell program?

```
x :: Float
y :: Double
x = 3
y = 4
z = x+y
```