

CSCE 531 Spring 2010
QUIZ 4
Assigned Tuesday, 10-01-26

1. Match:

- (a) Command
- (b) Declaration
- (c) Expression

with

- (a) Is evaluated to yield a value.
- (b) Is executed to change the value of a variable or to change the input or output streams.
- (c) Is elaborated to produce a binding, usually to allocate memory, and sometimes to initialize variables.

Answer: 1-2, 2-3, 3-1.

2. Consider the following grammar:

```
<prog> ::= <stats>.
<stats> ::= <stat> | <stat>;<stats>
<stat> ::= <ass-stat>
<ass-stat> ::= <ident> := <expr>
<ident> ::= a | b | c
<expr> ::= 9
```

Give a derivation of `b := 9; c := 9.` from the start symbol `<prog>`.

```
<prog>=><stats>.>=><stat>;<stats>.>=><stat>;<stat>.>=><ass-stat>;<stat>.
=><ass-stat>;<ass-stat>.>=><ident>:=<expr>;<ass-stat>.
=>b:=<expr>;<ass-stat>.>=>b:=9;<ass-stat>.>=>b:=9;<ident>:=<expr>.
=>b:=9;c:=<expr>.>=>b:=9;c:=9.
```