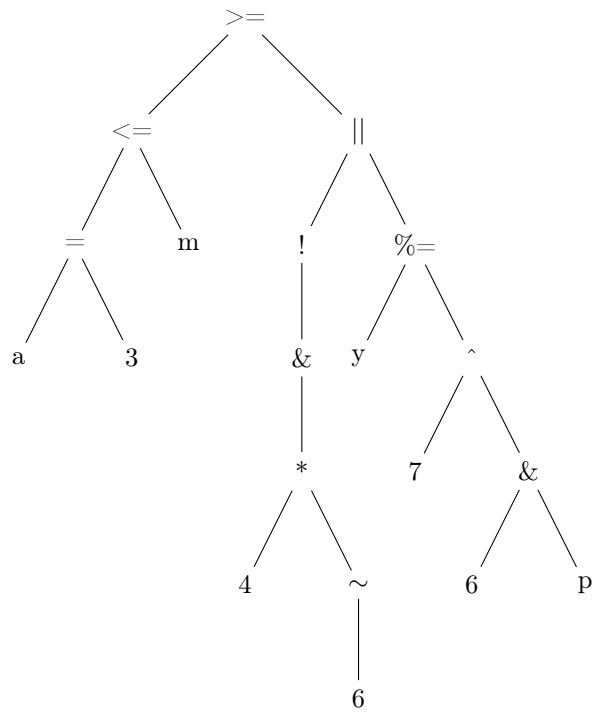# CMSI 386 Homework #4

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1. Abstract syntax tree for expression:

   `(a = 3) <= m >= ! & 4 * ~ 6 || y %= 7 ^ 6 & p`

2. Non-intuitive JS semicolon ambiguities

    (a) someTitle1 The first semicolon ambiguity arises because I was drinking coffee. The coffee was the exact right temperature to which a semicolon would become a full-fledged colon—it was a big day indeed.Some ballons fly shallow breezes in the dairy milks of life.

    (b) someTitle2

    (c) someTitle3

    (d) someTitle4

3. Give an example of a program in C that would not work correctly if local variables were allocated in static storage as opposed to the stack. For the purposes of this question, local variables do not include parameters. *Local variables init in static storage causes malfunctions*

4. Statically scoped vs. Dynamically scoped

5. Shallow binding vs. Deep binding

6. C declarations

```
double *a[n];
double (*b)[n];
double (*c[n])();
double (*d())[n];
```

7. C declarations re-done in Go

```
GoSol1
GoSol2
GoSol3
GoSol4
```

8. Translate: (-b + sqrt(4 x a x c)) / (2 x a)
   (a) postfix notation
   (b) prefix notation
   (*) urnary negation?

9. Interleave in C++ with C-style arrays

10. Interleave in C++ with C++ vectors