CS 565 Out: October 16, 1997
Jens Palsberg Due: October 23, 1997

Homework 8:

Implement the Decision Procedure for Subtyping

1. Implement in Java the $O(n^2)$ time algorithm from *Efficient Recursive Subtyping*. Use the following grammar:

```
t  ::=  top
     |  bot
     |  ( t -> t )
     |  mu u .(  t -> t )
     |  u
```

For a given subtype problem, your solution must output true or false. Here are two examples taken from *Efficient Recursive Subtyping*.

```
mu u.((u -> u) -> bot) <=
mu v.((v -> bot) -> top)

gives true


mu v.(v -> bot) <=
mu u.(u -> top)

gives false
```

Note: part of the problem is to figure out how to translate a type expression into an automaton.