



COMPUTER SCIENCE 322 (Winter Term 2004)
Compiler Construction
Prof. Levy

Problem Set 1

Due Wednesday 14 January

Reading Assignment: Dragon Book Sections 1.1-1.3, 1.5-1.6, 2.1-2.5

Written Assignment: Dragon Book Chapter 2 Exercises

2.1 a,b

2.3: Justify each positive answer with an example.

2.4 a : Show the parse tree for $3\ 4\ 2\ * \ + \ .$

2.7 : Your answer should be laid out like Figures 2.5 and 2.6 (with extra rules for handling precedence).

2.16 a,b

Turn these in to me on paper.

Programming Assignment

Re-read the Top Down Parsing and Predictive Parsing sections of Section 2.4. Then download RDP.java from the class page. Augment this code to make it a predictive parser for the following definition of let expressions in ML:

```
expr → let-expr | digit | var  
let-expr → let bindings in expr end  
bindings → binding | binding; bindings  
binding → val var = expr  
digit → 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9  
var → a | b | c | d | e | f | g
```

Do not change any existing code; just add code to make it work.