



Compiler Construction/Fall 2014/Homework 11

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Assigned Thursday 11/20/2014, due Thursday 12/4/2014 at 8am

Reading Assignments

- Lecture on November 20: Dragon book 4.5, 4.8 (17p).
- Lecture on December 4: Dragon book 8.5, 8.7, 9.1 (26p).
- *Note:* Final Exam on December 18.

Homework Assignments

The following assignments should be submitted for a maximum of 10 points and 10 bonus points.

1 Bottom-up parsing

Question 1.1 (Shift-reduce, 10 points).

Consider the following grammar:

$$E \rightarrow F * E \mid F \tag{1}$$

$$F \rightarrow (E) \mid n \tag{2}$$

The first few moves for parsing the string $(n * n) * n$ bottom-up look as follows:

Stack	Input	Action
\$	(n*n)*n\$	shift
\$(n*n)*n\$	shift
\$(n	*n)*n\$	reduce $F \rightarrow n$
\$(F	*n)*n\$	shift
\$(F*	n)*n\$	shift
...		

Write down the remaining moves.

Question 1.2 (Closures, 10 bonus points). Compute the ITEMS and CLOSURE sets for the grammar in the previous question.