Programmation Avancée et Compilation 2001
(Exercises)

6 Bottom-Up Parsing

Keywords 6

Give short explanations of the following keywords:

> *Shift-reduce parsing* (Parsing 2-1), *stack-automaton* (Parsing 2-1), *parser-generator* (Parsing 20).

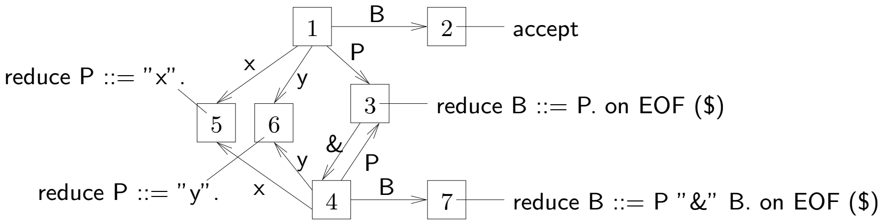
Exercise 12

Consider the following grammar with start-symbol B:

B ::= P "&" B | P
P ::= "x" | "y"

(a) How can the grammar produce x&y&x? Can it produce x&y&?

Now consider the following stack-automaton with start-state 1, accepting the same language as the above grammar:



(b) The automaton defines a parser. Show how it accepts the input "x&y&x" by completing the following table:

Stack	Input	Action
$_1$	x&y&x$	shift
$_1x_5$	&y&x$	reduce P ::= x
$_1P_3$	&y&x$	

(c) What happens during the construction of an analogous table for "x&y&"?