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Seminar 1: Syntax-directed translation

Exercise 1

Adapt grammar and then design the translation scheme for a downward translator. Calculate the first and follow sets.

Grammar:

S -> A

A -> A ID

A -> ID

Input	Output
X Y Z K	X = 1
	Y = 2
	Z = 3
	K = 4

Exercise 2

Adapt grammar and then design the translation scheme for a downward translator. Calculate the first and follow sets.

Grammar:

S -> A

A -> ID A

A -> ID

Input	Output
X Y Z K	X = 1
	Y = 2
	Z = 3
	K = 4

Exercise 3

Design translation scheme (offset parameters Pascal style. That is, the parameters are put on the stack from left to right). Calculate the first and follow sets.

Grammar:
Def -> ID '(' Lista ')'
Lista -> epsilon
Lista -> Tipo ID Resto
Resto -> ',' Tipo ID Resto
Resto -> epsilon
Tipo -> INT
Tipo -> CHAR
Tipo -> FLOAT

Input	Output
f(int a, float b, char c)	Offset de c = 4
	Offset de b = 4 + sizeof(char)
	Offset de a = 4 + sizeof(char) + sizeof(float)