

Syntax of Expression

(this is left recursive – do not use this)

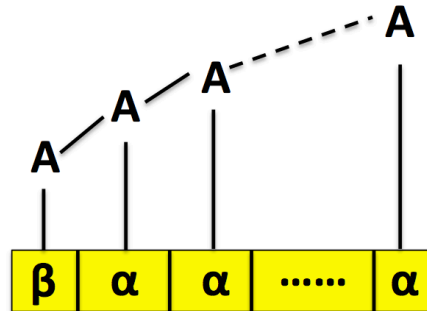
expr \rightarrow expr + term { print('+') }
| expr - term { print('-') }
| term

term \rightarrow term * factor { print('*') }
| term / factor { print('/') }
| factor

factor \rightarrow (expr)
| id { print(id) }
| num { print(num) }

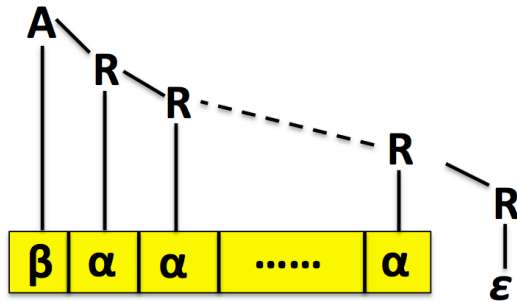
Removing Left Recursion

Left Recursive Way



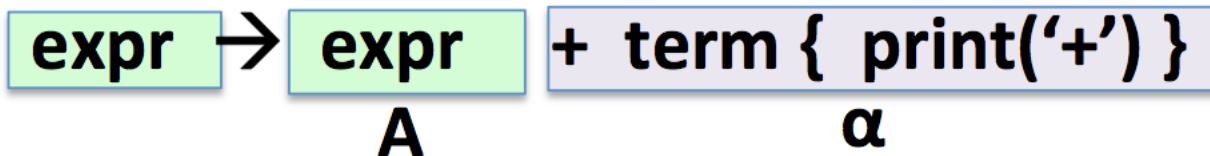
$$A \rightarrow A\alpha \mid \beta$$

Right Recursive Way



$$A \rightarrow \beta R$$

$$R \rightarrow \alpha R \mid \epsilon$$



Syntax of Expression

(no left-recursion use this)

expr \rightarrow term moreterms

moreterms \rightarrow + term { print('+') } moreterms
| - term { print('-') } moreterms
| ϵ

term \rightarrow factor morefactors

morefactors \rightarrow * factor { print('*') } morefactors
| / factor { print('/') } morefactors
| ϵ

factor \rightarrow (expr)
| id { print(id) }
| num { print(num) }