Expresión aritméticas

[0..9] [+, -, *, /, ^, (,)] ⟹ { Lexical, Gramatical, Semantica } → Conceptos básicos compiladores.

[0..9] → números

[+, -, *, /, ^, (,)] → operaciones

Caso #1

2 + 3 * (7 - 4) ^ 2 ⟹ Computador
- pila → intel → ALU Coprocesador matemático
- cola

2 + 3 * (3) ^ 2

2 + 3 * 9

2 + 27

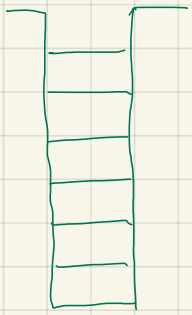
29

⟹ cola

Infix

Precedencia cola
Precedencia pila

1 → numeros pasan
2 → operaciones se ajustan por precedencia cola / pila
3 → If → posible operador salida



pila operaciones

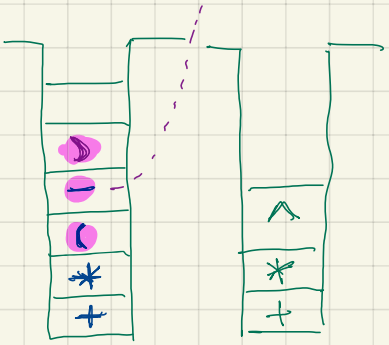
	+	-	*	/	%	^	(	)	
PC	1	1	2	2	2	4	5	0	Entrada
PP	1	1	2	2	2	3	-1	0	stack

2 + 3 * (7 - 4) ^ 2

2 3 7 4 - 2 ^ * +

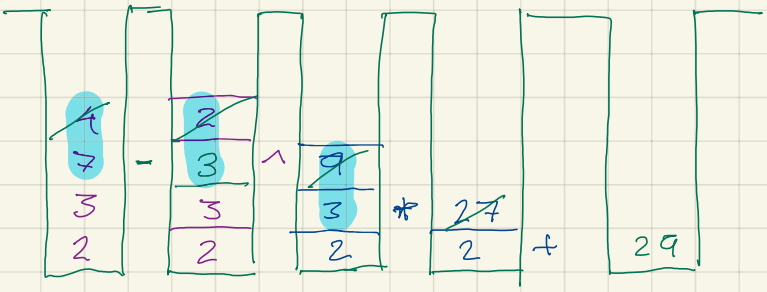
pila >= Entrada

-1	0
1	0
-1	0



2 3 7 4 - 2 ^ * + RPN Polaco inverso postfix

infix → valor

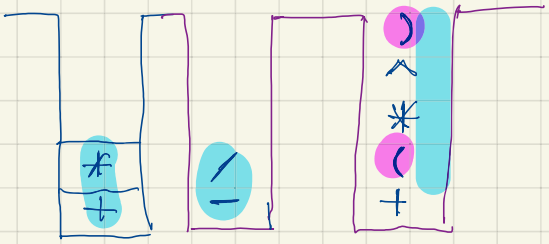


Caso #2

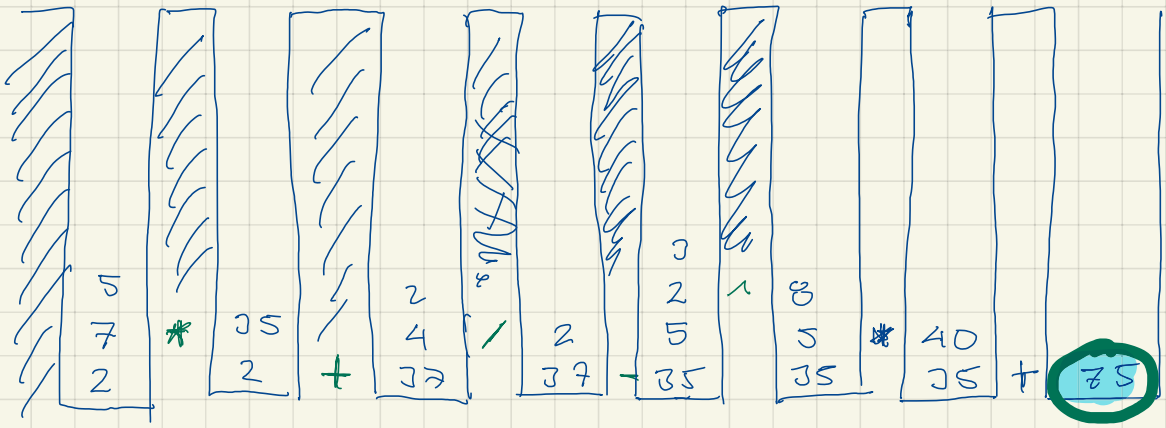
2 + 7 * 5 - 4/2 + (5 * 2^3)

2 7 5 * + 4 2 / - 5 2 3 ^ * +

POSTFIX



2 7 5 * + 4 2 / - 5 2 3 ^ * +



2 + 7 * 5 - 4/2 + (5 * 2^3)

2 + 35 - 2 + (5 * 8)

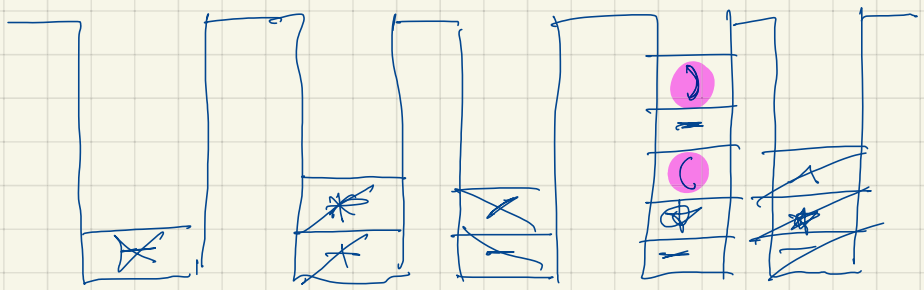
2 + 35 - 2 + 40

75

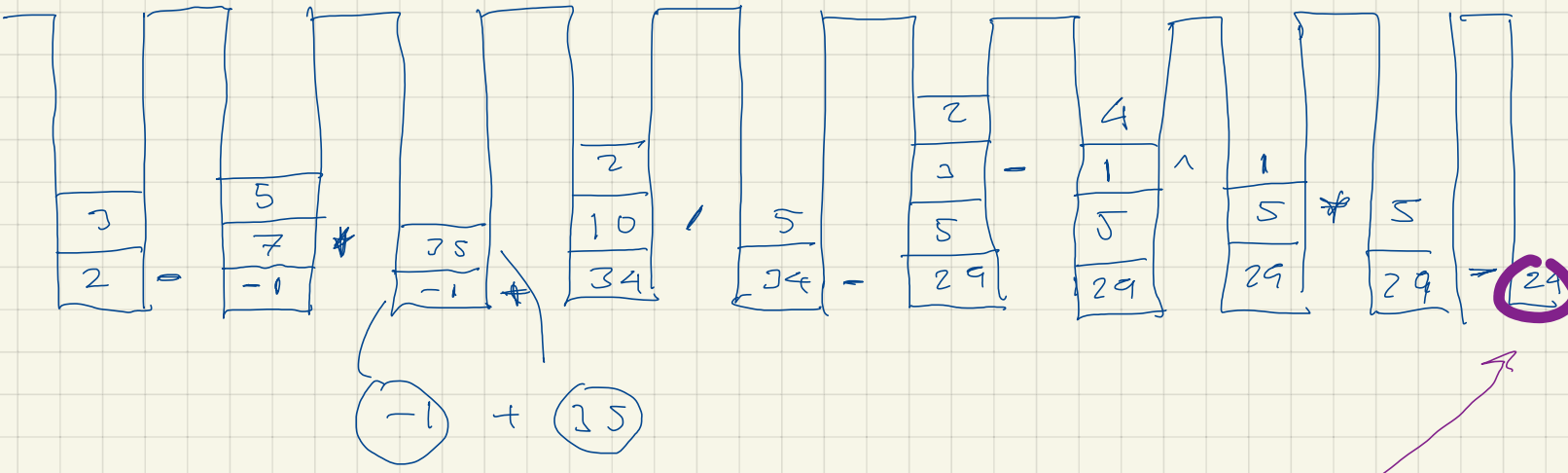
Caso #3

2 - 3 + 7 * 5 - 10/2 - 5 * (3-2)^4

2 3 - 7 5 * + (10) 2 / - 5 3 2 - 4 ^ * -



2 3 - 7 5 * + (10) 2 / - 5 3 2 - 4 ^ * -



2 - 3 + 7 * 5 - 10/2 - 5 * (3-2)^4

-1 + 35 - 5 - 5 * 1 ^4

-1 + 25

24