

Lab 7 Andrei Candet and Radu Ceaca

Link to git:

https://github.com/cinnamonbreakfast/flcd/tree/main/lab5_final_%40raduceaca

Assignment for a team of 2 students!

Statement: Implement a parser algorithm (cont)

PART 2: Deliverables

1. Algorithm corresponding to parsing tables (if needed) and parsing strategy
2. Class ParserOutput - DS and operations corresponding to choice 2.a/2.b/2.c ([lab 5](#)) (required operations: transform parsing tree into representation; print DS to screen and to file)

Remark:

- if the table contains conflicts, you will be helped to solve them. It is important to print message containing row (symbol in $LL(1)$, respectively state in $LR(0)$) and column (symbol) where the conflict appears. For $LL(1)$ values (α, i) might also help

Parser
+file_program +terminals +non_terminals +productions +transactions
+_init_prods() +_init_in_closure() +_init_dot() +_load(dir) +_to_human_readable(hashmap, deepness) +_closure(closure_map, transitions_map, transition_value) +_shiftable(transition) +_shift_dot(transition) +_canonical_collection() +_goto_all(state, initial_dotted, parent = -1, parent_key = "-1") +_goto_one(initial_dotted, key, state, parent = -1) +_get_reduced() +_get_terminals() +_get_non_terminals() +_get_productions() +_get_production(non_terminal)

+ parse_string(string)

	action			Goto	
	a	b	\$	A	S
0	S ₃	S ₄		2	1
1			acc		
2	S ₃	S ₄		6	
3	S ₃	S ₄		6	
4	r3	r3	r3		
5	r1	r1	r1		
6	r2	r2	r2		

`_init_prods():`

Initialize the production directory

`_init_in_closure()`

Initialeze the closure map

`_init_dot ()`

Initialization method for closure

`_load(dir)`

Load data from file `closure(closure_map, transitions_map, transition_value)` Compute the `closure_map`

`shiftable(transition)`

Check if the dot can be shifted

`shift_dot(transition)`

Call the shiftable function and shift the dot

`canonical_collection()`

Populate the canonical collection

`goto_all(state, initial_dotted, parent=-1, parent_key="-1")`

Goes through every state

`goto_one(initial_dotted, key, state, parent=-1)`

Goes to a single state `get_reduced()`

Returns the reduced map

`get_terminals()`

Returns terminals

`get_non_terminals()`

Returns non terminals

`get_productions()`

Returns productions

`get_production(non_terminal)`

Returns the production of a non terminal

`parse_string(string)`

pre: string to parse

post: parsing table