

IFJ LL grammar & Table for precedential analysis

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October 2022

1 LL grammar

- 1.1 $\langle \text{PROLOG} \rangle \rightarrow \langle ?\text{php} \langle \text{PROGRAM} \rangle$
- 1.2 $\langle \text{PROGRAM} \rangle \rightarrow \langle \text{PROG_BODY} \rangle ? \rangle \text{EOF}$
- 1.3 $\langle \text{PROGRAM} \rangle \rightarrow \langle \text{PROG_BODY} \rangle \text{EOF}$
- 1.4 $\langle \text{FUNC} \rangle \rightarrow \text{function ID } (\langle \text{PARAMS} \rangle) : \langle \text{RETURN_EXPRESSION} \rangle \{ \langle \text{BODY} \rangle \}$
- 1.5 $\langle \text{FUNC_CALL} \rangle \rightarrow \text{ID}(\langle \text{CALL_PARAMS} \rangle);$
- 1.6 $\langle \text{CALL_PARAMS} \rangle \rightarrow \epsilon$
- 1.7 $\langle \text{CALL_PARAMS} \rangle \rightarrow \$\text{ID} \langle \text{CALL_PARAMS_N} \rangle$
- 1.8 $\langle \text{CALL_PARAMS_N} \rangle \rightarrow \epsilon$
- 1.9 $\langle \text{CALL_PARAMS_N} \rangle \rightarrow \$\text{ID} \langle \text{CALL_PARAMS_N} \rangle$
- 1.10 $\langle \text{PARAMS} \rangle \rightarrow \epsilon$
- 1.11 $\langle \text{PARAMS} \rangle \rightarrow \$\text{ID} \langle \text{PARAMS_N} \rangle$
- 1.12 $\langle \text{PARAMS_N} \rangle \rightarrow \epsilon$
- 1.13 $\langle \text{PARAMS_N} \rangle \rightarrow , \$\text{ID} \langle \text{PARAMS_N} \rangle$
- 1.14 $\langle \text{PROG_BODY} \rangle \rightarrow \langle \text{FUNC} \rangle \langle \text{PROG_BODY} \rangle$
- 1.15 $\langle \text{PROG_BODY} \rangle \rightarrow \epsilon$
- 1.16 $\langle \text{PROG_BODY} \rangle \rightarrow \langle \text{EXPRESSION} \rangle ; \langle \text{PROG_BODY} \rangle$
- 1.17 $\langle \text{PROG_BODY} \rangle \rightarrow ; \langle \text{PROG_BODY} \rangle$
- 1.18 $\langle \text{PROG_BODY} \rangle \rightarrow \langle \text{CONSTRUCT} \rangle \langle \text{PROG_BODY} \rangle$
- 1.19 $\langle \text{ASSIGNMENT} \rangle \rightarrow \$\text{ID} = \langle \text{EXPRESSION} \rangle ;$
- 1.20 $\langle \text{ASSIGNMENT} \rangle \rightarrow \$\text{ID} = \langle \text{FUNC} \rangle ;$
- 1.21 $\langle \text{EXPRESSION} \rangle \rightarrow \epsilon$
- 1.22 $\langle \text{EXPRESSION} \rangle \rightarrow \langle \text{RETURN} \rangle$
- 1.23 $\langle \text{CONSTRUCT} \rangle \rightarrow \langle \text{ASSIGNMENT} \rangle$
- 1.24 $\langle \text{CONSTRUCT} \rangle \rightarrow \langle \text{WHILE_LOOP} \rangle \langle \text{CONSTRUCT} \rangle$
- 1.25 $\langle \text{CONSTRUCT} \rangle \rightarrow \text{if } (\langle \text{EXPRESSION} \rangle) \{ \langle \text{BODY} \rangle \} \text{ else } \{ \langle \text{BODY} \rangle \}$
- 1.26 $\langle \text{CONSTRUCT} \rangle \rightarrow \text{while } (\langle \text{CONSTRUCT} \rangle) \{ \langle \text{BODY} \rangle \}$
- 1.27 $\langle \text{RETURN} \rangle \rightarrow \text{return } \langle \text{RETURN_EXPRESSION} \rangle ;$
- 1.28 $\langle \text{RETURN_EXPRESSION} \rangle \rightarrow \epsilon$
- 1.29 $\langle \text{RETURN_EXPRESSION} \rangle \rightarrow \langle \text{EXPRESSION} \rangle$
- 1.30 $\langle \text{BODY} \rangle \rightarrow \epsilon$

- 1.31 $\langle \text{BODY} \rangle \rightarrow \langle \text{EXPRESSION} \rangle ; \langle \text{BODY} \rangle$
1.32 $\langle \text{BODY} \rangle \rightarrow \langle \text{CONSTRUCT} \rangle \langle \text{BODY} \rangle$
1.33 $\langle \text{BODY} \rangle \rightarrow ; \langle \text{BODY} \rangle$
1.34 $\langle \text{BODY} \rangle \rightarrow \langle \text{RETURN} \rangle \langle \text{BODY} \rangle$

2 Table for precedential analysis

	+ -	* /	<	>	>=	<=	===	!==	i	()	\$
+ -	>	<	>	>	>	>	>	>	<	<	>	>
* /	>	>	>	>	>	>	>	>	<	<	>	>
<	<	<					>	>	<	<	>	>
>	<	<					>	>	<	<	>	>
>=	<	<					>	>	<	<	>	>
<=	<	<					>	>	<	<	>	>
===	<	<	<	<	<	<			<	<	>	>
!==	<	<	<	<	<	<			<	<	>	>
i	>	>	>	>	>	>	>	>		=	>	>
(<	<	<	<	<	<	<	<	<	<	=	
)	>	>	>	>	>	>	>	>			>	>
\$	<	<	<	<	<	<	<	<	<	<		

3 LL table

	;	ID	FUNCTION	:	\$ID	EOF	,	IF	ELSE	WHILE	RETURN	()	=
$\langle \text{PROLOG} \rangle$	16		15											
$\langle \text{PROGRAM} \rangle$	16		15			2								
$\langle \text{FUNC} \rangle$		4	4	4										
$\langle \text{FUNC_CALL} \rangle$		5												
$\langle \text{CALL_PARAMS} \rangle$					7		7							
$\langle \text{CALL_PARAMS_N} \rangle$					9		9							
$\langle \text{PARAMS} \rangle$					11									
$\langle \text{PARAMS_N} \rangle$					13		13							
$\langle \text{BODY} \rangle$								25	27	24				
$\langle \text{ASSIGNMENT} \rangle$					17									17
$\langle \text{EXPRESSION} \rangle$			19					21						
$\langle \text{CONSTRUCT} \rangle$								24						
$\langle \text{PROG_BODY} \rangle$								25		27				
$\langle \text{RETURN} \rangle$											27	4	4	
$\langle \text{RETURN_EXPRESSION} \rangle$					29									