

Source Text: (this is the text used by the parser)

#CAGv1;
!start <MAIN>;
<MAIN> : <R1> { @?:@~; } | <R2> { @T:@bb; };
<R1> : hi | hello;
<R2> : (!optional(good { @!T; } bye) | !repeat(bye { @!;!; }, 1, 2);

(PT) Parsing Tree: (this contains only string data coming from ANTLR parser)

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graph TD
    nuanceGrammar --> grammarHeader
    nuanceGrammar --> preamble
    nuanceGrammar --> body1[body]
    nuanceGrammar --> body2[body]
    nuanceGrammar --> body3[body EOF]

    grammarHeader --> CAGv1["#CAGv1;"]
    preamble --> startDeclaration["!start"]
    preamble --> ruleDeclaration["<MAIN>"]
    body1 --> ruleDeclaration1["<R1>"]
    body1 --> ruleBody1["{ @?:@~; }"]
    body2 --> ruleDeclaration2["<R2>"]
    body2 --> ruleBody2["{ @T:@bb; }"]
    body3 --> ruleDeclaration3["<R2>"]
    body3 --> ruleBody3["(!optional(good { @!T; } bye) | !repeat(bye { @!;!; }, 1, 2);"]

```

(AST) Abstract Syntax Tree: (nodes contains a data class, select them to show it)

[AST:1] GRAMMAR (null)

- [AST:3] PREAMBLE (null)
 - [AST:7] HEADER (CAGv1)
 - [AST:9] START (MAIN)
- [AST:5] BODY (null)
 - [AST:11] RULE (MAIN)
 - [AST:31] RULE (R1)
 - [AST:51] RULE (R2)

(ASN) Abstract Syntax Node:

[m53 (?)] OR(.)

- [m55 (L)] AND(.)
 - [m57 (L)] OPTIONAL(.)
 - [m59 (L)] TERM(good)
 - [m61 (R)] TERM(bye)
 - [m63 (R)] REPEAT(1;2)
 - [m65 (L)] TERM(bye)

This is the action map (nodeId[Long] <--> tags[@])

Id	Tags
59	[@!T;]
65	[@!;!]

[INFO]

This is the rule node containing the rule declaration, its expression tree and tag map

Debugging Logs:

TIME	THREAD	CLASS	LEVEL	LOGGER	MESSAGE
932ms	main-gui-1 @ ??	-ngGui\$DebuggingActioner#initialise:642	INFO	log-UI	(not jar) Open default directory: /home/luca-phd/Documents/school_luca/dottorato/research/verbal interface/speech_workspace/concept_action_grammar_generator/file/grammars/
7268ms	main-gui-1 @ ??	-ngGui\$DebuggingActioner#openSource:669	INFO	log-UI	load file cancelled
9079ms	main-gui-1 @ ??	-ngGui\$DebuggingActioner#openSource:680	INFO	log-UI	opening file from: /home/luca-phd/Documents/school_luca/dottorato/research/verbal interface/speech_workspace/concept_action_grammar_generator/file/grammars/hello_world.cagg
9102ms	main-gui-1 @ ??	-ngGui\$DebuggingActioner#openSource:667	INFO	log-UI	source tab updated!
9952ms	T-EventQueue-0 @ ??	debugging-DebuggingTest\$TestActioner#initialise:670	INFO	log-UI	Debugging structure created for string: #CAGv1; !start <MAIN>; <MAIN> : <R1> { @?:@~; } <R2> { @T:@bb; }; <R1> : hi hello; <R2> : (!optional(good { @!T; } bye) !repeat(bye { @!;!; }, 1, 2);