Centro Universitário de Belo Horizonte - Uni-BH

Curso: Ciência da Computação Disciplina: ompiladores

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Linguagem Javazim - Corrigida

Programa \rightarrow Classe \$ 1 → "public" "class" ID "{" ListaMetodo Main "}" 2 Classe → Tipo ID ";" 3 DeclaracaoVar ListaMetodo → ListaMetodo' 4 → Metodo ListaMetodo' <mark>5</mark> | ε <mark>6</mark> ListaMetodo' → Tipo ID "(" RegexListaParam ")" "{" RegexDeclaraVar ListaCmd Retorno "}" 7 Metodo \rightarrow ListaParam 8 | ε 9 RegexListaParam → DeclaracaoVar RegexDeclaraVar 10 | ε 11 RegexDeclaraVar → Param ListaParam' 12 ListaParam ListaParam' \rightarrow ", " ListaParam $\frac{13}{18}$ | ϵ $\frac{14}{19}$ → Tipo ID 15 Param \rightarrow "return" Expressao";" 16 | ϵ 17 Retorno → "public" "static" "void" "main" "(" ")" "{" RegexDeclaraVar ListaCmd "}" 18 Main → "boolean" 19 | "int" 20 | "string" 21 | "float" 22 | "void" 23 Tipo → ListaCmd' 24 ListaCmd ListaCmd' \rightarrow Cmd ListaCmd' 25 | ϵ 26 → CmdIF 27 | CmdWhile 28 | CmdPrint 29 | CmdPrintln 30 | ID Cmd' 31 Cmd → CmdAtrib 32 | CmdMetodo 33 Cmd' → "if" "(" Expressao ")" "{" Cmd "}" CmdIF' 34 CmdIF CmdIF' \rightarrow "else" "{" Cmd "}" 35 | ε 36 → "while" "(" Expressao ")" "{" Cmd "}" 37 CmdWhile → "print" "(" Expressao ")" ";" 38 CmdPrint → "println" "(" Expressao ")" ";" 39 CmdPrintln → "=" Expressao ";" 40 CmdAtrib → "(" RegexExp4 ")" ";" 41 CmdMetodo \rightarrow Exp1 Exp' 42 Expressao → "&&" Exp1 Exp' 43 | "||" Exp1 Exp' 44 | ε 45 Exp' Exp1 \rightarrow Exp2 Exp1' 46 Exp1' \rightarrow "<" Exp2 Exp1' 47 | "<=" Exp2 Exp1' 48 | ">" Exp2 Exp1' 49 | ">=" Exp2 Exp1' <mark>50</mark> | "==" Exp2 Exp1' <mark>51</mark> | "!=" Exp2 Exp1' <mark>52</mark> | ε <mark>53</mark> → Exp3 Exp2' 54 Exp2 \rightarrow + Exp3 Exp2' 55 | - Exp3 Exp2' 56 | ϵ 57 Exp2' → Exp4 Exp3' 58 Exp3 Exp3' \rightarrow * Exp4 Exp3' 59 | / Exp4 Exp3' 60 | ε 61 → ID Exp4' 62 | ConstInteira 63 | ConstReal 64 | ConstString 65 Exp4 | "true" 66 | "false" 67 | OpUnario Expressao 68 | "(" Expressao")" 69 \rightarrow "(" RegexExp4 ")" $\frac{70}{10}$ | ϵ Exp4' RegexExp4 → Expressao RegexExp4' 72 | ε 73 → "," Expressao RegexExp4' <mark>74</mark> | ε <mark>75</mark> RegexExp4'

 \rightarrow "-" 76 | "!" 77

OpUnario

Cálculo do FIRST e FOLLOW

	FRIST	FOLLOW
Programa	public	\$
Classe	public	\$
DeclaracaoVar	boolean, int, string, float, void	boolean, int, string, float, void, if, while, print, println, ID, return, }
ListaMetodo	ε, boolean, int, string, float, void	public
ListaMetodo'	ε, boolean, int, string, float, void	public
Metodo	boolean, int, string, float, void	if, while, print, println, ID, public
RegexListaParam	ϵ , boolean, int, string, float, void)
RegexDeclaraVar	ϵ , boolean, int, string, float, void	if, while, print, println, ID, return, }
ListaParam	boolean, int, string, float, void)
ListaParam'	ε, ",")
Param	boolean, int, string, float, void	",",)
Retorno	ε, return	}
Main	public	}
Tipo	boolean, int, string, float, void	ID
ListaCmd	ϵ , if, while, print, println, ID	return, }
ListaCmd'	ϵ , if, while, print, println, ID	return, }
Cmd	if, while, print, println, ID	if, while, print, println, ID, return, }
Cmd'	" - ", (if, while, print, println, ID, return, }
CmdIF	if	if, while, print, println, ID, return, }
CmdIF'	else, ϵ	if, while, print, println, ID, return, }
CmdWhile	while	if, while, print, println, ID, return, }
CmdPrint	print	if, while, print, println, ID, return, }
CmdPrintln	println	if, while, print, println, ID, return, }
CmdAtrib	<u>"="</u>	if, while, print, println, ID, return, }
CmdMetodo	(if, while, print, println, ID, return, }
Expressao	ID, ConstInteira, ConstReal, ConstString, true, false, "-" (negação), "!", (",",), ","
Exp'	&&, , ε	",",), ","
Exp1	ID, ConstInteira, ConstReal, ConstString, true, false, "-" (negação), "!", (&&, , ";",), ","
Exp1'	<, <=, >, >=, ==, !=, ε	&&, , ";",), ","
Exp2	ID, ConstInteira, ConstReal, ConstString, true, false, "-" (negação), "!", (<, <=, >, >=, ==, !=, &&, , ";",), ","
Exp2'	+, -, ε	<, <=, >, >=, ==, !=, &&, , ";",), ","
Ехр3	ID, ConstInteira, ConstReal, ConstString, true, false, "-" (negação), "!", (+, -, <, <=, >, >=, ==, !=, &&, , ";",), ","
Exp3'	*, /, ε	+, -, <, <=, >, >=, ==, !=, &&, , ";",), ","

Exp4	ID, ConstInteira, ConstReal, ConstString, true, false, "-" (negação), "!", (*, /, +, -, <, <=, >, >=, ==, !=, &&, , ";",), ","
Exp4'	(, ε	*, /, +, -, <, <=, >, >=, ==, !=, &&, , ";",), ","
RegexExp4	ε, ID, ConstInteira, ConstReal, ConstString, true, false, "-" (negação), "!", (
RegexExp4'	",", ε)
OpUnario	"-" (negação), "!"	ID, ConstInteira, ConstReal, ConstString, true, false, "-" (negação), "!", (