



GRAPHS_IDE

Manual Técnico

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TECNOLOGÍA USADA EN EL PROYECTO

- **JAVA**

java 19.0.2 2023-01-17

Java(TM) SE Runtime Environment (build 19.0.2+7-44)

Java HotSpot(TM) 64-Bit Server VM (build 19.0.2+7-44, mixed mode, sharing)



- **KOTLIN**

Con Java 19



- **IDE**

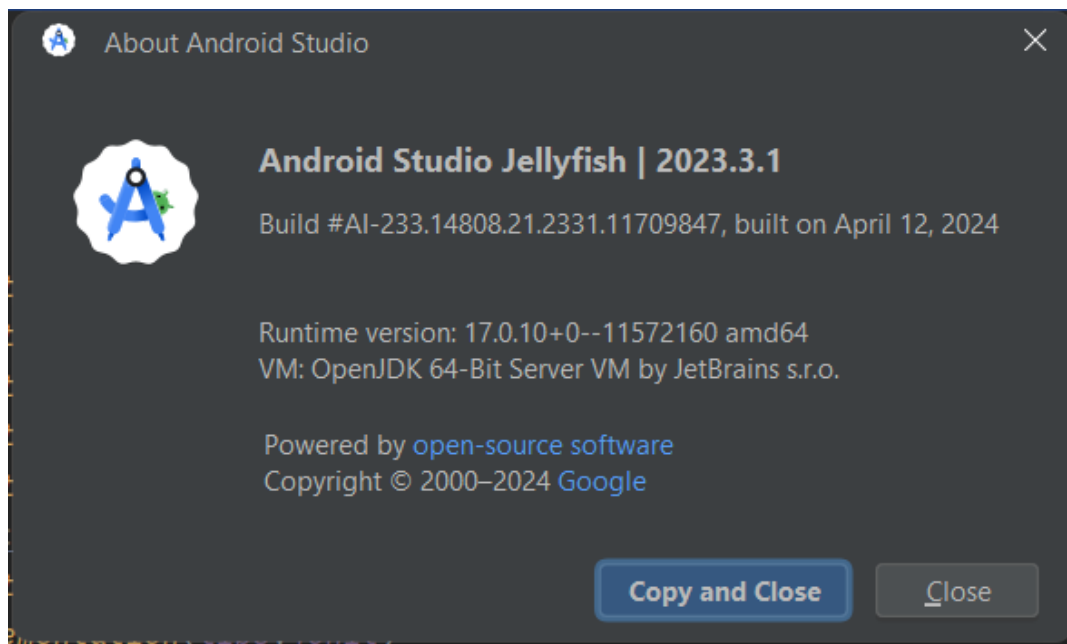
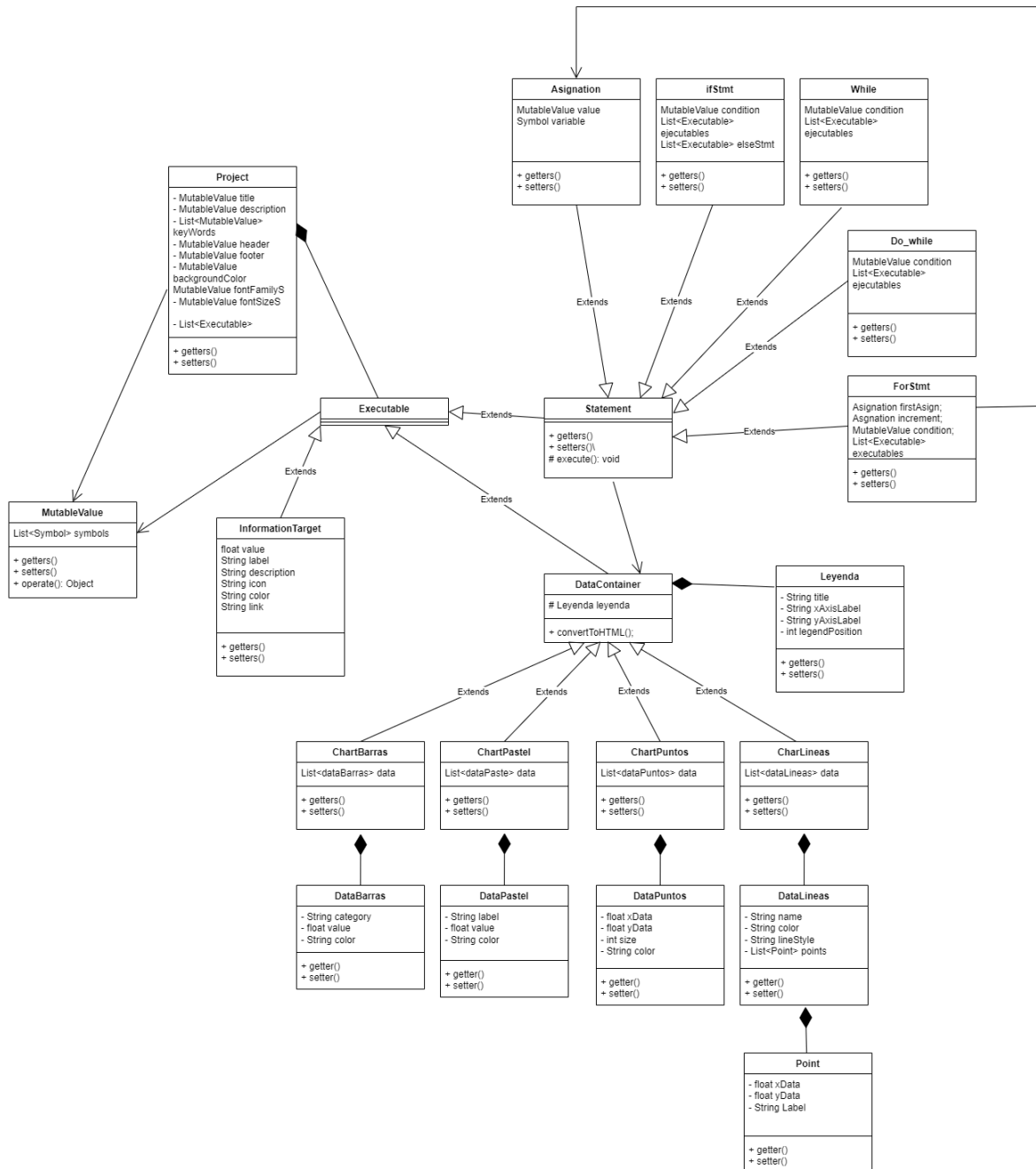


DIAGRAMA DE CLASES



ESPECIFICACIONES PARA EL LEXER

PALABRAS RESERVADAS

| | |
|-------|-------|
| IF | if |
| ELSE | else |
| FOR | for |
| WHILE | while |
| DO | do |

ATRIBUTOS

Son palabras que corresponden para la creación de gráficas u otros atributos específicos para el lenguaje, van entre comillas.

ATRIBUTOS GLOBALES

| | |
|-------------|-----------------|
| TITLE | title |
| DESCRIPTION | description |
| KEYWORDS | keywords |
| HEADER | header |
| FOOTER | footer |
| BACKGROUND | backgroundColor |
| FONT_FAMILY | fontFamily |
| FONT_SIZE | fontSize |

ATRIBUTOS PARA GRAFICAS

| | |
|----------|------------|
| DATA | data |
| CATEGORY | category |
| VALUE | value |
| COLOR | color |
| CHART | chart |
| X_AXIS_L | xAxisLabel |
| Y_AXIS_L | yAxisLabel |

| | |
|------------|----------------|
| LABEL | label |
| LEGEND_POS | legendPosition |
| X_DATA | x |
| Y_DATA | y |
| NAME | name |
| POINTS | points |
| LINE_STYLE | lineStyle |
| ICON | icon |
| LINK | link |
| SIZE | size |

ESPECIFICACIÓN DE VALORES

Irán entre comillas y sirven para especificar algún valor de un atributo que así lo requiera.

| | |
|-------------|--------|
| DASHED_LINE | dashed |
| SOLID_LINE | solid |

| | |
|--------|--------|
| BOTTOM | bottom |
| TOP | top |
| RIGHT | right |
| LEFT | left |

OTROS SÍMBOLOS

| | |
|--------------|---|
| LLAVE_L | { |
| LLAVE_R | } |
| TWO_DOTS | : |
| CORCHETE_L | [|
| CORCHETE_R |] |
| COMA | , |
| DOT_COMA | ; |
| PARENTESIS_L | (|
| PARENTESIS_R |) |

OPERADORES

| | |
|--------------|----|
| ASIGNATOR | = |
| TIMES | * |
| PLUS | + |
| DIV | / |
| MINUS | - |
| PLUS_PLUS | ++ |
| MINUS_MINUS | -- |
| PLUS_EQUALS | += |
| MINUS_EQUALS | -= |
| TIMES_EQUALS | *= |
| DIV_EQUALS | /= |

COMPARADORES

| | |
|--------------|----|
| EQUALS | == |
| DIFFERENT | != |
| MAYOR | > |
| MAYOR_EQUALS | >= |
| MENOR | < |
| MENOR_EQUALS | <= |

TIPOS DE DATOS

| | | |
|-----------|----------------------------------|------------------|
| HEX_COLOR | #([A-Fa-f0-9]{6} [A-Fa-f0-9]{3}) | //entre comillas |
| INTEGER | [0-9]+ | |
| STRING | \"[^{\"}]\" | |
| FLOAT | INTEGER \. INTEGER | |
| TRUE_B | true | |
| FALSE_B | false | |
| VARIABLE | | |

ESPECIFICACIONES PARA EL PARSER

iniciar con instruction

ATRIBUTOS AGRUPADOS

align_specification ::= BOTTOM

| TOP

| RIGHT

| LEFT

lines_style_attr ::= DASHED_LINE

| SOLID_LINE

pure_boolean_data ::= TRUE_B

| FALSE_B

boolean_data ::= pure_boolean_data

| VARIABLE

pure_numeric_data ::= INTEGER

| FLOAT

numeric_data ::= pure_numeric_data

| VARIABLE

numeric_integer_data ::= INTEGER

| VARIABLE

pure_string_data ::= STRING

| align_specification

| lines_style_attr

| HEX_COLOR

string_data ::= pure_string_data

| VARIABLE

all_accepted_data ::= pure_string_data

| pure_numeric_data

| pure_boolean_data

| pure_boolean_data

| VARIABLE

INSTRUCCIONES GLOBALES

instruction ::= code

| with_llaves

code ::= global_specification

| chart_creation

| statement

| more_code

more_code ::= code

| /* empty */

with_llaves ::= LLAVE_L code LLAVE_R

ESPECIFICACIONES DE ARCHIVO

global_specification ::= global_single_specification more_global_specifications

more_global_specifications ::= COMA global_single_specification

| /* empty */

global_single_specification ::= TITLE TWO_DOTS string_data

| DESCRIPTION TWO_DOTS string_data

| keywords_specification

| BACKGROUND TWO_DOTS HEX_COLOR

| FONT_FAMILY TWO_DOTS string_data

| FONT_SIZE string_data

keywords_specification ::= CORCHETE_L keywords_names CORCHETE_R

keywords_names ::= **string_data** more_key_words

more_key_words ::= COMA **string_data** more_key_words

| /* empty */

CREACIÓN DE GRÁFICAS

```
/*solo una grafica*/
chart_creation ::= LLAVES_L elements_chart LLAVES_R
elements_char ::= leyend_chart_op DATA_TWO_DOTS specification_data
leyend_chart_op_f
specification_data ::= data_chart
                    | information_target

leyend_chart_op ::= leyend_chart COMA
                    | /* empty */

leyend_chart_of_f ::= COMA legend_chart
                    | /*empty*/
```

LEYENDA PARA GRAFICAS

```
leyend_chart ::= CHART TWO_DOTS LLAVES_L specifications_leyend LLAVES_R
specifications_leyend ::= specification more_specifications
specification ::= TITLE TWO_DOTS string_data
                    | X_AXIS_L TWO_DOTS string_data
                    | Y_AXIS_L TWO_DOTS string_data
                    | LEGEND_POS TWO_DOTS align_specification
more_specifications ::= COMA specification more_specifications
                    | /* empty */
```

TARJETA DE INFORMACIÓN

```
information_target ::= LLAVE_L data_target more_data_target LLAVE_R
data_target ::= VALUE TWO_DOTS numeric_data
                    | LABEL TWO_DOTS string_data
                    | DESCRIPTION TWO_DOTS string_data
                    | ICON TWO_DOTS string_data
                    | COLOR TWO_STRING HEX_COLOR
                    | LINK TWO_DOTS string_data
more_data_target ::= COMA data_target more_data_target
```

DATOS PARA GRÁFICAS

`data_chart ::= CORCHETE_L LLAVE_L specific_chart_data`

`CORCHETE_R`

`specific_chart_data ::= chart_barras`

`| chart_pie`

`| chart_points`

`| chart_lines`

GRÁFICA DE BARRAS

`chart_barras ::= value_chart_barras more_values_barras`

`more_values_barras ::= COMA LLAVE_L value_chart_barras more_values_barras`

`| /* empty */`

`value_chart_barras ::= CATEGORY TWO_DOTS string_data COMA VALUE`

`TWO_DOTS numeric_data optional_color_b LLAVE_R`

`optional_color_b ::= COMA COLOR TWO_DOTS HEX_COLOR`

GRÁFICA DE PASTEL

`chart_pie ::= value_chart_pie more_values_pie`

`more_values_pie ::= COMA LLAVE_L value_chart_pie more_values_pie`

`| /* empty */`

`value_chart_pie ::= LABEL TWO_DOTS string_data COMA VALUE TWO_DOTS`

`numeric_data optional_color_pie LLAVES_R`

`optional_color_pie ::= COMA COLOR TWO_DOTS HEX_COLOR`

GRÁFICA DE PUNTOS

`chart_points ::= value_chart_points more_values_points`

`more_values_points ::= COMA LLAVE_L value_chart_points more_values_points`

`| /* empty */`

value_chart_points ::= X_DATA **TWO_DOTS** numeric_data **COMA** Y_DATA
TWO_DOTS numeric_data optional_point_c_data LLAVES_R

optional_point_c_data ::= **COMA** options_pointc **optional_point_c_data**
| /* empty */

options_pointc ::= SIZE **TWO_DOTS** numeric_integer_data
| COLOR **TWO_DOTS** HEX_COLOR

GRÁFICA DE LÍNEAS

chart_lines ::= value_chart_lines **more_values_lines**
more_value_lines ::= COMA LLAVE_L value_chart_lines
| /* empty */

value_chart_lines ::= NAME **TWO_DOTS** string_data **COMA** POINTS **TWO_DOTS**
CORCHETE_L **specific_data_line** more_specific_data_line **CORCHETE_R**
optional_values_lines LLAVE_R

more_specific_data_line ::= COMA specific_data_line **more_specific_data_line**
| /* empty */

DATOS

specific_data_line ::= LLAVE_R X_DATA TWO_POINTS **numeric_data** COMA Y_DATA
TWO_POINTS **numeric_data** optional_data_lines **CORCHETE_R**

optional_data_lines ::= COMA LABEL **TWO_POINTS** string_data
| /* empty */

OTROS ATRIBUTOS

optional_values_lines ::= COMA optional_attribute_linesc **optional_values_lines**
| /* empty */
optional_attribute_linec ::= COLOR TWO_DOTS HEX_COLOR

| LINE_STYLE TWO_DOTS lines_style_attr

INSTRUCCIONES

statement ::= variable_statement DOT_COMA

| if_block
| for_block
| while_block
| do_while_block

internal_block ::= chart_creation

| variable_statement
| /* empty */

VARIABLES

variable_statement ::= VARIABLE asignation

| VARIABLE PLUS_PLUS
| VARIABLE MINUS_MINUS
| VARIABLE PLUS_EQUALS numeric_data
| VARIABLE MINUS_EQUALS numeric_data
| VARIABLE TIMES_EQUALS numeric_data
| VARIABLE DIV_EQUALS numeric_data;

asignation ::= ASIGNATOR possible_values

possible_values ::= pure_numeric_data

| pure_numeric_data PLUS numeric_data
| pure_numeric_data MINUS numeric_data
| pure_numeric_data DIV numeric_data
| pure_numeric_data TIMES numeric_data
| pure_numeric_data PLUS_EQUALS numeric_data
| pure_string_data
| pure_boolean_data

- | VARIABLE
- | VARIABLE PLUS numeric_data
- | VARIABLE MINUS numeric_data
- | VARIABLE DIV numeric_data
- | VARIABLE TIMES numeric_data
- | VARIABLE PLUS_EQUALS numeric_data

CONDICIONALES

condition ::= pure_boolean_data EQUALS boolean_data

- | pure_boolean_data DIFFERENT boolean_data
- | pure_string_data EQUALS string_data
- | pure_string_data DIFFERENT string_data
- | pure_numeric_data EQUALS numeric_data
- | pure_numeric_data DIFFERENT numeric_data
- | pure_numeric_data MAYOR numeric_data
- | pure_numeric_data MAYOR_EQUALS numeric_data
- | pure_numeric_data MENOR numeric_data
- | pure_numeric_data MENOR_EQUALS numeric_data
- | VARIABLE EQUALS pure_string_data
- | VARIABLE EQUALS pure_numeric_data
- | VARIABLE EQUALS VARIABLE
- | VARIABLE EQUALS pure_boolean_data
- | VARIABLE DIFFERENT pure_string_data
- | VARIABLE DIFFERENT pure_numeric_data
- | VARIABLE DIFFERENT VARIABLE
- | VARIABLE DIFFERENT pure_boolean_data
- | VARIABLE MAYOR numeric_data
- | VARIABLE MAYOR_EQUALS numeric_data
- | VARIABLE MENOR numeric_data
- | VARIABLE MENOR_EQUALS numeric_data

IF INSTRUCTION

if_block ::= if_stmt LLAVE_L internal_block LLAVE_R else_block

if_stmt ::= IF PARENTESIS_L condition PARENTESIS_R

else_block ::= ELSE LLAVE_L internal_block LLAVE_R
| /*empty*/

FOR INSTRUCTION

for_block ::= for_stmt LLAVE_L internal_block LLAVE_R

for_stmt ::= FOR PARENTESIS_L variable_definition DOT_COMA condition
DOT_COMA optional_increment PARENTESIS_R

variable_definicion:=VARIABLE asignation
| /* empty */

optional_increment ::= variable_statement
| /* empty */

WHILE INSTRUCTION

while_block ::= while_statement LLAVE_L internal_block LLAVE_R

while_statement ::= WHILE PARENTESIS_L condition PARENTESIS_R

DO-WHILE INSTRUCTION

do_while_block ::= DO LLAVE_L internal_block LLAVE_R while_statement DOT_COMA