

# Educational Compiler Project — COMPO

## Grammar correction

Tanguy BERTHOUD & Yohann MARTIN

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Institut Supérieur d'Électronique de Paris

# 1 Grammar

All words in uppercase are the tokens returned by the lexical analyzer (scanner).

All words in lowercase are the variables managed by the syntactic analyzer (parser). The document variable is the starting symbol of the grammar.

```
document:
    block_list
```

```
block_list:
    block BLANK_LINE block_list
    | block
```

```
block:
    H1 TEXT
    | H2 TEXT
    | H3 TEXT
    | H4 TEXT
    | H5 TEXT
    | H6 TEXT
    | HR
    | BLOCK_CODE NEWLINE TEXT NEWLINE BLOCK_CODE
    | paragraph
    | quote
    | svg
```

```
text:
    TEXT
    | BOLD text BOLD
    | ITALIC text ITALIC
    | UNDERLINE text UNDERLINE
    | STRIKETHROUGH text STRIKETHROUGH
    | INLINE_CODE text INLINE_CODE
    | LBRACKET text RBRACKET LPAREN TEXT RPAREN
    | EXCLAM LBRACKET text RBRACKET LPAREN TEXT RPAREN
```

```
line:
    text line
    | text
```

```
paragraph:
    line NEWLINE paragraph
    | line
```

```
quote:
    QUOTE line NEWLINE quote
```

## 1.1 SVG extension

```
svg:
    XSVG_BEGIN svg_coord COMMA svg_coord NEWLINE svg_instruction_list
    XSVG_END
```

```
svg_instruction_list:
    svg_instruction NEWLINE svg_instruction_list
    |  $\epsilon$ 
```

```
svg_instruction:
    LINE svg_coord svg_coord svg_attribute
    | POLYLINE svg_coord_list svg_attribute
    | POLYGON svg_coord_list svg_attribute svg_attribute
    | CIRCLE svg_coord NUMBER svg_attribute svg_attribute
    | ELLIPSE svg_coord NUMBER NUMBER svg_attribute svg_attribute
    | RECT svg_coord NUMBER NUMBER svg_attribute svg_attribute
    | XSVG_TEXT svg_coord STR svg_attribute svg_attribute
    svg_attribute
```

```
svg_coord:
    NUMBER COMMA NUMBER
```

```
svg_coord_list:
    svg_coord svg_coord_list
    | svg_coord
```

```
svg_attribute:
    STR
    |  $\epsilon$ 
```

## 2 Tokens

Here is the correspondence of the tokens to their value in markdown:

- `BLANK_LINE` : `\n\n`
- `H1` : `#`
- `H2` : `##`
- `H3` : `###`
- `H4` : `####`
- `H5` : `#####`
- `H6` : `#####`
- `TEXT` : anything that is not from the other tokens are considered as text
- `HR` : `- - -`
- `BLOCK_CODE` : `````
- `NEWLINE` : `\n`
- `BOLD` : `**`
- `ITALIC` : `*`
- `UNDERLINE` : `_ _`
- `STRIKETHROUGH` : `~~`
- `INLINE_CODE` : ```
- `LBRACKET` : `[`
- `RBRACKET` : `]`
- `LPAREN` : `(`
- `RPAREN` : `)`
- `EXCLAM` : `!`
- `QUOTE` : `>`
- `XSVG_BEGIN` : ````xsvg:`
- `COMMA` : `,`
- `XSVG_END` : `````
- `LINE` : `line`
- `POLYLINE` : `polyline`
- `CIRCLE` : `circle`

- `ELLIPSE` : ellipse
- `RECT` : rect
- `XSVG_TEXT` : text
- `NUMBER` :  $-?[0-9]^+$