Instituto Tecnológico y de Estudios Superiores de Monterrey Campus Querétaro



**Python interpreter using Java**

Lexical Specification

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Compilers Design

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**Lexical Specification**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Priority | Description | Token | Token name | Regular expression  (if applicable) |
| 1 | Reserved Word Let | let | RWLET | r'[let]' |
| 2 | Reserved Word Static | static | RWSTA | r'[static]' |
| 3 | Reserved Word Const | const | RWCNS | r'[const]' |
| 4 | If Condition | if | IFCON | r'[if]' |
| 5 | Else Condition | else | ELSCN | r'[else]' |
| 6 | Std Input | stdin | STDIN | r'[stdin]' |
| 7 | Std Output | println! | STDOU | r'[println!]' |
| 8 | Iterators | iter | ITRTR | r'[iter]' |
| 9 | Dot Access Operator | . | DOTOP | r'[.]' |
| 10 | Loop Condition | loop | LOOPC | r'[loop]' |
| 11 | While Condition | while | WHILE | r'[while]' |
| 12 | For Condition | for | FORCN | r'[for]' |
| 13 | In Condition | in | INCON | r'[in]' |
| 14 | Boolean Data Type True | true | TRUEB | r'[true]' |
| 15 | Boolean Data Type False | false | FALSE | r'[false]' |
| 16 | Arithmetic Operator Addition | + | ADDOP | r'[+]' |
| 17 | Arithmetic Operator Subtraction | - | SUBOP | r'[-]' |
| 18 | Arithmetic Operator Quotient | / | QUOOP | r'[/]' |
| 19 | Arithmetic Operator Dereference | \* | DEROP | r'[\*]' |
| 20 | Arithmetic Operator Remainder | % | REMOP | r'[%]' |
| 21 | Bitwise Operator AND | & | ANDOP | r'[&]' |
| 22 | Bitwise Operator OR | || | OROPE | r'[||]' |
| 23 | Equals Operator | = | EQLOP | r'[=]' |
| 24 | Comparison Operator Equal To | == | EQLTO | r'[==]' |
| 25 | Comparison Operator Unequal To | =! | UNEQL | r'[=!]' |
| 26 | Comparison Operator Less Than | < | LESST | r'[<]' |
| 27 | Comparison Operator Greater Than | > | GREAT | r'[>]' |
| 28 | Comparison Operator Less Than Or Equal | <= | LSSEQ | r'[<=]' |
| 29 | Comparison Operator Greater Than Or Equal | >= | GRTEQ | r'[>=]' |
| 30 | String Declaration | String :: new() | STRDE | r'[[String]+[::]+[new]]' |
| 31 | String | a-z A-Z 0-9 | STRNG | r'[[“][a-zA-Z0-9]\*[“]]' |
| 32 | Concatentaion | concat | CNCAT | r'[concat]' |
| 33 | Single Line Comment | // | SLCOM | r'[[//][[a-zA-Z0-9~!@#$%^&\*-\_]\*]]' |
| 34 | Block Comment | /\* \*/ | BLCOM | r'[[///][[a-zA-Z0-9~!@#$%^&\*-\_]\*][///]]' |
| 35 | Pointer to symbol-table entry for [a-z A-Z] | a-z A-Z | IDVAR | r'[a-zA-Z\_][a-zA-Z0-9\_]\*' |
| 36 | Integer numbers | 0-9 | INTVR | r'[0-9]' |
| 37 | Open Parenthesis | ( | OPENP | r'[(]' |
| 38 | Close Parenthesis | ) | CLOSP | r'[)]' |