MINI JAVA COMPILER

(6TH Sem Compiler Project)

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**Compilation Steps**

1. Compile lex file

lex lex\_file.l

1. Compile yacc file

Bison -d yacc\_file.y

1. Compile generated files

Gcc lex.yy.c y.tab.c –lfl –ly

1. Run

./a.out < test.java

**System Requirement**

1. Java environment
2. Linux Platform ( preferred)
3. Bison / Yacc ( anyone)
4. Gcc compiler
5. Lex

**Tools Used :** FLEX , BISON/YACC

**This compiler detects syntactical errors in a java file.**

**It detects as follows:**

->missing package name;

->missing import;

->incomplete import statement;

->missing class keyword and name;

->missing parent class if any;

->missing variable name;

->missing curly braces;

->missing semicolon;

->missing paranthesis in method name, while, if, for, do while

->missing parameters of method;

->missing initializers(array initializer if initialized);

->missing end expression in initiaizers

->missing exceptions thrown;

->for loop errors:

->wrong initialization;

->wrong predicate;

->wrong incrementation;

->missing initializer/predicate/incrementation;

->incomplete mathematical expression {+, -, \*, /};

->incomplete left/right operands in logical operators{ <, > };

->missing expression in variable declarator statement;

->constructor errors:

->paranthesis missing;

->expected parameters;

->expression ',' missing in parameters;

->Jump statements errors:

->missing semicolon in break, continue, return, throw;

->try without catch

->catch without exception

**FEATURES NOT ADDED**

Syntactic:

->cannot detect missing both opening and closing paranthesis in one statement;

Symantic:

->type specifiers not detected;

->semantic errors;

->variables used without declaration;

->wrong keyword;

->missing return type;

->missing prototype;

->scope of variables and methods;

->runtime errors{meemory allocation};

->missing object instantiate;

**TimeLine**

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| **Date** | **Activity** |
| **2nd Feb** | **Project Assigned** |
| **7th – 10th Feb** | **Literature survey** |
| **13th – 15th Feb** | **Familiarization with lex** |
| **10th – 20th March** | **Familiarization with yacc/bison** |
| **5th – 15th April** | **Building java production rules** |
| **20th – 23rd April** | **Testing and evaluation** |
| **24th April** | **Submission** |

**------------Thank You--------------**