

Manual For: mini java compiler which detects simple java programs. It should report all the syntax errors in a given program properly.

System Requirement:

- 1) Install Lex, Bison and gcc compiler on your system.
- 2) Add address of bin folder of lex, yacc and gcc in the Environment Variable PATH.

go to:

System settings->Advanced System Settings->Environment Variable->PATH

Then add their respective bin folder location in PATH

How to Compile:

- 1) Open cmd, move to the folder where your c.l, c.y, and test.java is placed.
- 2) test.java is the input file for the java compiler, edit in test.java for seeing the syntax error present in the input program
Then Run these commands on cmd
- 3) flex c.l
- 4) bison -dy c.y
- 5) gcc y.tab.c
- 6) a.exe

Output:

- It will show Syntax error if there is any error in the test.java during parsing.
- Else, it would not show any syntax error during parsing.

FEATURE SUPPORTED

1. Declaration of Functions

- Public static void main (String [] args)
- There will be only one main function in the program as per supported by JAVA.
- If there is no main function the compiler will show syntax error.
- Multiple Functions can be declared.

2. Declaration of Variables

- Variable of type INT, FLOAT, CHAR, DOUBLE, STRING can be declared.
- Ex, int a; float b; char c; double d;
- String st; (NOTE: S is capital in java).

3. Declaration and Initialization of One Dimensional Array using **new** keyword

- Example: int [] b=new int[5]; String[] st=new String[15];
- Example: int [] a;

4. Print Statement in JAVA

- Print Statement in java is written in the form : **System.out.println(...)**
- Example: System.out.println("world");
- Example: System.out.println(5);
- Example: System.out.println(a);
- Example: System.out.println(a+5+ab+"world");
- Example: System.out.println("Hello"+"World");

5. Control Statements

- All type of If statement will be supported in java compiler.
- Nested if, if
- if (Compound Statement) will be supported by compiler. example:

```
if(i>j)
{
    while(i>0)
    {
        int p;
    }
    int a=b+c;
}
```

6. Loop Statement

For Loop:

- For loop will be supported by java compiler.
- For (Compound Statement) will be supported by compiler
- Example:for (int i=0 ; i<5 ;i=i+1)

```
{
    if(i>2)
    i=i+1;
    int a=b+c;
}
```

While Loop:

- For loop will be supported by java compiler.
- For (Compound Statement) will be supported by compiler
- Example:while (j<5)

```
{
    for ( int i=0 ; i<5 ;i=i+1)
    {
        if(i>2)
            i=i+1;
```

```
        int a=b+c;
    }
    j=j+1;
}
```

Note: All expressions and declarations will be compiled as per the java compiler.

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