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.