Homework 1
Readme of
Simple Java − Scanner

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June 6, 2021

Contents

1 Lex & Yacc version

```
$ lex –version
flex 2.6.4
$ bison -V
bison (GNU Bison) 3.5.1 Written by Robert Corbett and Richard Stallman.
Copyright (C) 2020 Free Software Foundation, Inc. This is free software; see the source for
copying conditions. There is NO warranty; not even for MERCHANTABILITY or FITNESS
FOR A PARTICULAR PURPOSE.
```

2 Operating System

```
$ cat /etc/os-release | sed -En 's/PRET.*"(.*)"/\1/p'

Pop!_OS 20.04 LTS
```

3 Execution manual

3.1 Build

Make

```
$ make
```

LaTeX

```
$ cd Readme
$ make
```

3.2 Run

```
$ make # Build it first
$ ./yacc.elf < input.java
```

4 How to implement

Regex in Lex, BNF in Yacc, and std::unordered_set std::vector in C++

5 Problems

1. Yacc 有毒。

2. It only can be written in GLR. It makes me very very confused to debug.

3. 仔細讀了一些 flex & bison (O'REILLY) 的書之後，覺得作業規格書真是誤導人,甚至,sample output 也是錯的．比如說：

   (a) class 內部可以有 fields 跟 methods，但是呢，規格書說變數宣告屬於 fields，函式屬於 methods。如果按照如此實做，會遇到 Reduce/Reduce conflict。

但是如果參考書中介紹，變數宣告與 methods 中的 function 合併成一個 non-terminal，就可以避免這個問題。

(b)

6 Outcome