

Assignment - IV Compiler Design Laboratory (CS3075)
Amiya Chowdhury (122CS0067) Date:16/08/2024

1. A DFA that recognises chemical formulas composed of the eight elements H, C, N, O, SI, S, CL, and SN. The formula is written with commas separating consecutive elements and an element can appear in any order, in any combination. There are nine input symbols:

CHILONS,d

where d stands for digit. Sample sequences are of the form:

H₂O O₂ etc.

The formulas need not represent compounds that actually exist.

Solution File: *lab4_1.1*

Working Screenshot:

```
(base) amiyachowdhury@Amiyas-  
Enter the string  
4H  
H4  
Valid  
H4,C12,016  
Valid  
H4,C,09  
Valid  
H4,C9,  
H4,C9,  
H4,9C  
H4,  
  
H4  
Valid
```

2. A lexical analyser for MORSE CODE. The inputs are dot, dash and space. The outputs are tokens for all the alphanumeric and punctuation marks for which there are codes. Refer the Morse Code table.

Solution File: *lab4 2.1*

Working Screenshot:

```
Enter the string
..--- -.-- . .- ..   .... -.- ...- . -.-- .- ... .. -..
2 YEARS HAVE PASSED
```