**LAB #2 :- Basic Lexical Analyzer for files contatining Student Information Using Lex**

**Note:- You can use chatgpt as much as you want, but do understand what is going on at the backend of your code. Also, copying a fellow student’s work is strictly prohibitied. You can reach out to me in case you don’t understand the task or face any issue with its implementation**

***Input Format:***

The input file contains lines of student information in the format:

*|Name:- Zaid | Reg\_Number:- 20203489 | Deptt:- FCS*E|

Each line represents a student's information, including their name, registration number, and department.

***Objective:***

Write a Lex program for a lexical analyzer that reads an input file, parses the content, and generates a prompt for any syntax error in any line.

Requirements:

1. Utilize Lex for tokenizing the input.

2. Define patterns for valid tokens such as ‘|’, ‘:-” 'Name', 'Reg\_Number', 'Deptt' and values of Name, Reg\_Number and Deptt.

3. Check for syntax errors and print prompts accordingly.

***Example Input:***

*Valid input lines:*

|Name:- John | Reg\_Number:- 20201234 | Deptt:- CS|

|Name:- Alice | Reg\_Number:- 20202345 | Deptt:- ECE|

Invalid input lines:

1. `|Name= Bob123 | Reg\_Number:- 2020 | CLASS:- MECH|`

- Syntax error:

a. 2020 is not a valid registration number

b. Expected Deptt, found CLASS

c. Bob123 is not a valid name.

d. = is not a valid assignment operator

***Additional Instructions:***

1. Use Lex to define patterns for valid tokens.

2. Implement rules to tokenize and identify 'Name', 'Reg\_Number', and 'Deptt'.

3. Check for syntax errors and print prompts for invalid lines.

4. Test the program with examples

***Submission:-***

Submit your code and executable files in zip format.