**Bahria University, Lahore Campus**

Department of Computer Science

Lab Journal 05

**(Spring 2024)**

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| Course: | **Compiler Construction – Lab** | Date: \_15-5-2024\_\_ |
| Course Code: | CSL 323 | Max Marks: 10 |
| Faculty’s Name: | Mr. M Mudassar |  |

Name: \_Affan Ahmad\_\_\_ Enroll No: \_03-134221-3\_\_ Class: \_BS(cs) 5-A\_\_\_\_\_\_\_\_\_\_\_\_\_

Objective(s):

Upon completion of this lab session, learners will be able to:

* The objective of this exercise is to get you to understand how the Deterministic Finite Automato are formed for the different languages. Those DFA’s then transformed into Transition Tables which would be later used to transform in 2-D array in C++ to implement the concept of lexical analyzer.

Lab Tasks:

Your lab report is expected to contain the following for each exercise:

* C++ Source Code (any file)
* Screenshot of your output (optional)

## Task 1:

Write a program that read input text (or program) from the text file and recognizes tokens (words) from it. Tha data of text file must be loaded into two fixed size buffer arrays (optionally can be of size 100). First, the data must be loaded into buffer-1, then into buffer-2, and if still there is data to read, again it loads in the buffer-1 and then buffer-2. The process must repeat until the data or content ends in the text file. You are not allowed to use of separate word array. The program must display each token (word) in a single line.

**File: (input.txt)**

i am affan ahmad

**File: (main.cpp)**

#include <iostream>

#include <fstream>

#include <sstream>

#include <cstring>

using namespace std;

const int BUFFER\_SIZE = 100;

void processBuffer(char buffer[]) {

stringstream ss(buffer);

string token;

while (ss >> token) {

cout << token << endl;

}

}

int main() {

ifstream file("input.txt");

if (!file.is\_open()) {

cerr << "Error: Unable to open file." << endl;

return 1;

}

char buffer1[BUFFER\_SIZE];

char buffer2[BUFFER\_SIZE];

bool useBuffer1 = true;

while (!file.eof()) {

if (useBuffer1) {

file.getline(buffer1, BUFFER\_SIZE);

processBuffer(buffer1);

} else {

file.getline(buffer2, BUFFER\_SIZE);

processBuffer(buffer2);

}

useBuffer1 = !useBuffer1;

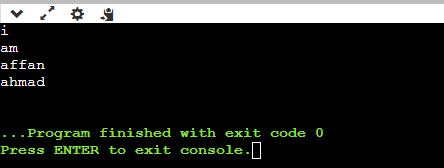
}

file.close();

return 0;

}

**Output:**



**Lab Grading Sheet :**

|  |  |  |  |
| --- | --- | --- | --- |
| **Task** | **Max Marks** | **Obtained Marks** | **Comments(*if any*)** |
| 1. | 05 |  |  |
| 2. | 05 |  |  |
|  |  |  |  |
|  |  |  |  |
| **Total** | **10** |  | **Signature** |

**Note: Attempt all tasks and get them checked by your Lab Instructor.**