



## Department of Computer Science and Engineering

<b>Course Code: CSE 420</b>	<b>Credits: 1.5</b>
<b>Course Name: Compiler Design</b>	<b>Semester: Summer' 20</b>

### Lab 03

#### Introduction

##### I. Topic Overview:

The lab is designed to introduce the students to the basics concept of a compiler Design. As part of this activity students will be using built in libraries. Basic techniques of coding and required tools will also be shown to students.

##### II. Lesson Fit:

The lab gives a hand on experience of the knowledge of theory class.

##### III. Learning Outcome:

After this lab, the students will be able to:

- Understand and use built-in library function for tokenization.
- Use **Regex** library effectively.

##### IV. Anticipated Challenges and Possible Solutions

###### Possible Solutions:

- Use built in methods of java.

##### V. Acceptance and Evaluation

If a task is a continuing task and one couldn't finish within time limit, he/she will continue from

there in the next Lab, or be given as a home work. He/ she have to submit the code and have to face a short viva. A deduction of 30% marks is applicable for late submission. The marks distribution is as follows:

Code: 0%  
Viva: 100%

## VI. Activity Detail

### Activity Detail

#### a. Hour: 1 - 2

**Discussion:** Learn Regex to Convert Regular Expression.

**Problem Task:** Task 1 (page 3-4)

#### b. Hour: 3

**Discussion:** Code in Regex.

**Problem Task:** Task 2 (page 4-5)

### Assignment 3: Problem Description

In this assignment, you will work on regular expression. For simplicity, we will assume that there is a fixed set of regular expressions. We will not consider out of these. You must use any built-in method or package in your implementation. The following table contains a fixed set of RE that will be used in this assignment.

Description	RE	Valid	Invalid
Zero or more	a(bc)*de	ade abcbde	abde abcbde
One or more	a(bc)+de	abcde abcbde	ade abc
Once or not at all	a(bc)?de	ade abcde	abc abcbde

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Character classes	[a-m]*	blackmail imbecile	above below
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Negation of character classes	[^aeiou]	b c	a e
Exactly N times	[^aeiou]{6}	rhythm syzygy	rhythms allowed

### Lab 3: Activity List

**Task 1:** Learn Regex by searching in google.

[https://www.tutorialspoint.com/java/java\\_regular\\_expressions.htm](https://www.tutorialspoint.com/java/java_regular_expressions.htm)

#### Input:

2  
ab\*c\*d  
a\*b(cd)+e?f  
3  
acccd  
abbbbccccc  
bcdcddef

#### Output:

YES, 1  
NO, 0  
YES, 2

#### Input:

3  
[a-c]{3}cab+(da)\*f  
db\*a[^def]{2}gh  
def[k-p]\*p+  
5

defkmnpmp  
p acbcabbf  
pqrstd  
dbaabggh  
dbbbbamkgh

#### Output:

YES, 3  
YES, 1  
NO, 0  
NO, 0

YES, 2