

# CSL202: PROGRAMMING PARADIGMS & PRAGMATICS

Semester II, 2021 – 2022

Lab 5: Regular Expressions

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- **Aim:** The goal of this lab is to introduce Regular Expressions
- **Let's get started!**
  - Create a directory structure to hold your work for this course and all the subsequent labs:
    - Suggestion: `CSL202/Lab5`
- **Introduction**
  - **Intro to Regular Expressions:** This file provides a short crash course on Regular Expressions. It is suggested that you read the file carefully to understand the basics.
  - **Perl RegExp Tutorial:** Having understood the basics, it is time to use them in Perl. This link gives a decent set of examples to help with regular expressions in Perl. It is **STRONGLY** suggested that you **CODE** the examples from the **Part 1: Basics** section, especially, 'Using Regular Expressions in Perl' part:
    - <http://perldoc.perl.org/perlretut.html>
  - Once you are confident about your regular expressions skills, try the following tasks.
- **Exercises**
  - Print all lines in `micro.txt` that contain the letter v or V along with the count of the number of lines. (`Task1.pl`)
    - Sample output:

```
Have a nice exam period said
the brave instructor.
Just before the class voted for the new president

The count is 3.
```
  - Print all lines in `micro.txt` that contain the word Java or java. Print the count of the number of matching lines when done. (`Task2.pl`)
    - Sample output:

```
I like java.
Java is a very interesting.
Too much java can cause excessive hair

Count is 3 lines
```
  - Display a list and a count of all words in `micro.txt` that have a capital letter someplace between the first and last letter of the word. (`Task3.pl`)
    - Sample output:

```
ALMOST
PTA
heLLo

There are 3 words with a capital letters in the middle.
```
  - Print all single words or pairs of words in `micro.txt` surrounded by double quotes. Do not include words with an apostrophe or hyphen. (`Task4.pl`)

- Sample Output:

```
too far
funny
close call
```

- Print a list and total count of all words in `micro.txt` that begin with an "a" and have the same second and third letter. The case of the letters is to be ignored. (`Task5.pl`)

- Sample Output:

```
allow
aLl
all
Attic
There are 4 words that start with a and have the same 2nd and 3rd character.
```

- Write a regular expression which matches a 10 digit phone number given in the following formats: XXXXXXXXXX or XXX XXX XXXX or XXX-XXX-XXXX (`RegexPhone.pl`) . Given a particular string as input, it should output TRUE or FALSE depending on pattern matching.
- Write a regular expression which matches time of day such as "9.17 am" or "12.30 pm" (`RegexTime.pl`) . Given a particular string as input, it should output TRUE or FALSE depending on pattern matching.

- **Next Week!**

- Regular Expressions exercises in **Perl** !

- **Submitting your work:**

- All source files and class files as one tar-gzipped archive.
  - When unzipped, it should create a directory with your ID. Example: **2008CSB1001** (NO OTHER FORMAT IS ACCEPTABLE!!! Case sensitive!!!)
- Source files should include the following: (Case-Sensitive file names!!)
  - Task1.pl [2 Points]
  - Task2.pl [2 Points]
  - Task3.pl [3 Points]
  - Task4.pl [3 Points]
  - Task5.pl [3 Points]
  - RegexPhone.pl [3 Points]
  - RegexTime.pl [4 Points]
- ***Negative marks for any problems/errors in running your programs***
- Submit/Upload it to Google Classroom