

# CS105 : Computer Programming : PERL

## Project 05

Assigned on Wednesday, March 21  
Due on Saturday, March 31 at 11:59PM

### 1 Objectives

In class, we learned how to identify patterns using regular expressions (abbreviated to *regex*). Regular expressions was originated in the mid-fifties by a mathematician named Stephen Kleene initially for manipulating regular sets. Perl's regular expressions have extended the original system by Stephen Kleene. Also, we introduced the two ways to generate a web page: (1) by printing plain HTML and (2) by a program using *CGI.pm* written by Lincoln Stein.

Through this project, we want to generate a CGI script using *CGI.pm* that tests (i.e., identifies) a given regular expression in a given string. For simplicity, you are asked to implement a perl script that only matches a given patterns without having any modifiers.

### 2 Description & Hints

Implement all the following requirements:

1. First, make a directory called "cgi-bin" in your public\_html, i.e.,  
> `mkdir /public_html/cgi-bin`
2. The script will be called *test\_regex.cgi* and put in the "cgi-bin" directory.
3. Change the file access mode like below:  
> `chmod 755 /public_html/cgi-bin/test_regex.cgi`
4. Run your cgi script as follows:  
`http://www.cs.utexas.edu/users/userName/cgi-bin/test_regex.cgi`
5. The script (i.e., *test\_regex.cgi*) will use *CGI.pm* to generate a webpage. The webpage will take the following two strings: one for a source string and the other for a regular expression. To take the strings, use *start\_form()*.
6. After then, the matched information will be shown below the form (Details will be described in supplementary files. For example, the form should look like *test\_regex.html*).
7. Hints: *test\_regex.txt* and *example09.txt* contain all the needed functions for this project.

### 3 Grading Criteria & Policy

Note that the grade will be based on how well the required functionality for each subroutine is fulfilled. Therefore, please try to follow the description as much as possible to get full credits.

1. Make sure that your cgi script should run as follows (**10 points**):  
*http://www.cs.utexas.edu/users/userName/cgi-bin/test\_regex.cgi*
  2. The form generation (**30 points**). The form should look like  
*http://www.cs.utexas.edu/users/hyukcho/AI/cs105\_fall\_2006/test\_regex.html*  
You can find some hints from *example09.txt*.
  3. “print\_textfield()” (**20 points**): After the form is displayed, if each textfield has some input, print out the input value using “print\_textfield()” function. “print\_textfield” has two string parameters: (1) first for each message (i.e., either ‘Your text’ or ‘Your regex’) and (2) second for the value of each text field.
  4. “test\_match()” (**30 points**): It takes two strings: (1) one for the source string and (2) the other for the pattern.  
You can find some hints from *test\_regex.txt*.
  5. Program style (**10 points**): subroutines, indentation, readability, and so on.
- Please make sure to include the following header in the code (“test\_regex.cgi”):

```
# Project = 05
# Description = Test Regular Expressions using CGI.pm
# Program = test_regex.cgi
# Input = N/A
# Output = N/A
# Usage = http://www.cs.utexas.edu/users/userName/cgi-bin/test_regex.cgi
# Name = Your name
# UT EID = Your eid
# Comments (or README) = Describe some thing that you wish the grader to know.
For example, What do you like/dislike about the project? What was your challenge
for this project?
Perl code will be followed.
```

- This project is worth a total of 200 points. Make sure your program has no warnings and errors.
- You will need to submit one file for this project: “test\_regex.cgi”. Submit the files as follows:  
>turnin -submit hyukcho project05 test\_regex.cgi

Good luck!