A regular expression is a special combination of strings and symbols which is used to describe a pattern and search it. They are also popularly known as regex (regular expression). They can be used for searching a string and replacing it for validation purposes. In short, they are used for pattern matching and perform match and replace functions on the given text. In the given project we were asked to remove the comments from a given input C file and remove all the comments using JavaScript and PHP programming language.

Following is a brief comparison of regex in JavaScript and regex in PHP programming language.

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| Sr No. | JavaScript Regex | PHP Regex |
| 1. | In JavaScript \g is used as a modifier to do a global match. | There is no such global modifier in PHP |
| 2. | In JavaScript [abc] is used to match any string between the given construct | In PHP [[: space:]] is used to match any string given within the construct. |
| 3. | In JavaScript \d is used to find a digit from 0-9 | In PHP [[: digit:]]is used to find or match a digit from 0-9 |
| 4. | In JavaScript \s is used to find the whitespaces or the blank spaces | In PHP [[: space:]] is used for matching the whitespaces in a given string |
| 5. | In JavaScript str. replace (regex1, subst) is the function used for the substitution. | In PHP preg\_replace ($re, $subst, $str) is used for replacing or substituting the string. |
| 6. | Also, in JavaScript quotes are not required around the regex  eg. \/\[a-z A-z]\*\s\*\w\*\m and a comma is used to separate Regex with the replacement and we have to use /g option in order to do a global search | In PHP the quotes are required around the given regex. '/\/\/[A-z a-z]\*/'. However, it does not require \g or \m. |

Also, it was found that in JavaScript if we parse [^] as \*any character is including a newline in your regex, however this is very specific to JavaScript and does not work with PHP or any other language.

Hence during the implementation of the project, it was found that although PHP is not a very popularly used language for regex operations it is more efficient than the JavaScript program because it is easy to open and read a file in PHP and do line by line scanning of the program to remove the comments in the given c program. Moreover, the syntax for PHP is very easy to understand and the code. Another interesting function preg\_match() is used to match the string and store the contents in an array. However, using this function is not feasible in the project because our goal us to replace and remove the comments form the program. Hence, we used the preg\_replace() function for the project.