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| Course Name | ITD 3243 – Server Side Programming |
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| Grade | 100 |
| Grading Comments | <instructor comments here> |

Regular expressions are one of the tools we have to help guard against the hacking community.  Consider for a quick example a Regular Expression that catches some of the common SQL Injection attacks and blocks them.  Yeah.. now we have security relationship with our coding practices.  So for this discussion, research regular expressions out on the web, find examples, share the knowledge and talk about it here.  Security it everyone's responsibility and should be part of the design from day 1, not an after thought.  Look for where regular expressions can be used or are used.  Find examples of common regular expressions that guard against security issues and help to validate or clean data.  There is a wide variety of applicable uses.  As a last item, mention where in your class project you could use regular expressions.

Credit Card Validation with Regular Expressions

Regular expressions can be used to validate credit card numbers. Credit card numbers are a sequence of 13 to 16 digits. Each credit card company has its own identifying number. The regular expressions can be used to identify what type of credit card company the credit card number has been issued to. This type of regular expression can be used to alert customers when they are trying to use a credit card that the company’s system does not accept. Also, the system may have to route orders differently by the type of card that is being processed and the regular expressions used could determine what type of processing the credit card number requires by identifying the credit card company.

* Visa: ^4[0-9]{12}(?:[0-9]{3})?$

All Visa card numbers start with a 4. New cards have 16 digits. Old cards have 13.

* MasterCard: ^(?:5[1-5][0-9]{2}|222[1-9]|22[3-9][0-9]|2[3-6][0-9]{2}|27[01][0-9]|2720)[0-9]{12}$

MasterCard numbers either start with the numbers 51 through 55 or with the numbers 2221 through 2720. All have 16 digits.

* American Express: ^3[47][0-9]{13}$

American Express card numbers start with 34 or 37 and have 15 digits.

* Diners Club: ^3(?:0[0-5]|[68][0-9])[0-9]{11}$

Diners Club card numbers begin with 300 through 305, 36 or 38. All have 14 digits. There are Diners Club cards that begin with 5 and have 16 digits. These are a joint venture between Diners Club and MasterCard, and should be processed like a MasterCard.

* Discover: ^6(?:011|5[0-9]{2})[0-9]{12}$

Discover card numbers begin with 6011 or 65. All have 16 digits.

* JCB: ^(?:2131|1800|35\d{3})\d{11}$

JCB cards beginning with 2131 or 1800 have 15 digits. JCB cards beginning with 35 have 16 digits.

For my project, I could use a regular expression to validate the date entries which are required for the artist’s birth date, release date of the album, the bill board date for the highest ranking of the song and if the artist has deceased the death date.