

Week-3 –Lab

1. In the regex created from `r'(\d\d\d)-(\d\d\d-\d\d\d\d\d)'`, what does group 0 cover? Group 1? Group 2?
2. Find website URLs that begin with `http://` or `https://`.
3. Clean up dates in different date formats (such as `3/14/2015`, `03-14-2015`, and `2015/3/14`) by replacing them with dates in a single, standard format.
4. How would you write a regex that matches a number with commas for every three digits? It must match the following:
 - `'42'`
 - `'1,234'`
 - `'6,368,745'`but not the following:
 - `'12,34,567'` (which has only two digits between the commas)
 - `'1234'` (which lacks commas)
5. How would you write a regex that matches the full name of someone whose last name is Nakamoto? You can assume that the first name that comes before it will always be one word that begins with a capital letter.
The regex must match the following:
 - `'Satoshi Nakamoto'`
 - `'Alice Nakamoto'`
 - `'RoboCopNakamoto'`but not the following:
 - `'satoshiNakamoto'` (where the first name is not capitalized)
 - `'Mr. Nakamoto'` (where the preceding word has a nonletter character)
 - `'Nakamoto'` (which has no first name)
 - `'Satoshi nakamoto'` (where Nakamoto is not capitalized)
6. How would you write a regex that matches a sentence where the first word is either Alice, Bob, or Carol; the second word is either eats, pets, or throws; the third word is apples, cats, or baseballs; and the sentence ends with a period? This regex should be case-insensitive. It must match the following:
 - `'Alice eats apples.'`
 - `'Bob pets cats.'`
 - `'Carol throws baseballs.'`
 - `'Alice throws Apples.'`
 - `'BOB EATS CATS.'`' but not the following:
 - `'RoboCop eats apples.'`
 - `'ALICE THROWS FOOTBALLS.'`
 - `'Carol eats 7 cats.'`
7. Strong Password Detection Write a function that uses regular expressions to make sure the password string it is passed is strong. A strong password is defined as one that is at least eight characters long, contains both uppercase and lowercase characters, and has at least one digit. You may need to test the string against multiple regex patterns to validate its strength.