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CS 370

The following three real-world regular expressions should be analyzed in two ways:

1) What does each piece of it represent (piece is defined as that which is separated by a union or concatenation)?

2) Overall, what application is the whole expression for?

These should be done in one word doc and email to gmail separate from any other emails. Thank you.

((?=.\*\d)(?=.\*[a-z])(?=.\*[A-Z])(?=.\*[@#$%]).{6,20})

1.

(?=.\*\d) - this matches any digit between 0-9 and there must be at least one

(?=.\*[a-z]) - finds a match for any letter between a-z and there must be at least one

(?=.\*[A-Z]) - finds a match for any letter between A-Z and there must be at least one

(?=.\*[@#$%]) - finds a match of any of these special character and must be at least one

{6,20}) - String in questions will be between 6-20 characters

2.Put all together this regex is looking for a string between 6-20 characters that will have at least 1 digit,lowercase letter, uppercase letter, and one of these special characters. This is commonly used in checking for a valid password.

^([01]?\d\d?|2[0-4]\d|25[0-5])\.([01]?\d\d?|2[0-4]\d|25[0-5])\.([01]?\d\d?|2[0-4]\d|25[0-5])\.([01]?\d\d?|2[0-4]\d|25[0-5])$

1.

^ - this refers to where the string begins

$ - regers to where the string must end

([01]?\d\d?|2[0-4]\d|25[0-5]) - this is repeated 3 times between 2 dots which gives the string a form of xxx.xxx.xxx.xxx where we can start with either nothing or a 0 or 1 followed by a digit between 0-9 followed by no digit or a digit bettwen 0-9 OR( |) we can start with a 2 followed by a digit between 0-4 followed by a digit between 0-9 or we can start with a 2 followed by a 5 followed by a digit between 0-5. This condition applies to each segment before and after the dot.

2. The application of this regex is in order to check if a string of this format is a valid ip address that follows ipv4 protocol.

([01]?[0-9]|2[0-3]):[0-5][0-9]

1.

([01]?[0-9]|2[0-3]) - this first piece tries to to match a string of numbers with nothing in the begininning or a 1 or 0 followed by a digit between 0-9 Or a 2 followed by a number between 0-3.

[0-5][0-9] - this piece allows only a number that falls between 0-59.

2.The application of this regex is giving a time that is either in 12hr format or 24 hr format. The way it is constructed allows for both to be valid.