CS 5012: Foundations of Computer Science

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In class review:

Write a Regex function to do the following:
Matches whole words by looking for word boundaries.

\b[a-z]+\b

Write a Regex function to do the following:
Matches simple IP addresses, without validating the number ranges. (123.123.1.12)

\b(?:\d{1,3}\.){3}\d{1,3}\b

Write a Regex function to do the following:
Matches usernames that are 8 to 20 characters long, allowing alphanumeric and underscores.

Explain what the following Regex is doing.
Regex: \b\d{1,2}\/\d{1,2}\/\d{4}\b

Explain what the following Regex is doing.
Regex: \b[A-Za-z0-9._%+-]+@[A-Za-z0-9.-]+\.[A-Z|a-z]{2,}\b

In class group assignment:

Lookahead for Password Strength (5pts)

Create a RegEx that matches passwords that are at least 8 characters long and contain at least one lowercase letter, one uppercase letter, one number, and one special character.

(?=.*[A-Z])(?=.*[a-z])(?=.*[0-9])(?=.*[!@#\$%\^&*\(\)])[A-Za-z0-9!@#\$%\^&*\(\)]{8,}

Checking valid dates (5pts)

The following Regex expression matches the format MM/DD/YYYY: \b\d{1,2}\/\d{1,2}\/\d{4}\b. However, it is does not put any restrictions on the possible MM and DD, so its possible to capture a date like 15/99/0001. Propose an alternative Regex that fixes this problem.

^(0[1-9]|1[0-2])\/(0[1-9]|1[0-9]|2[0-9]|3[0-1])\/(19|20)\d\d$