

Regular Expressions

Week 07

TCNJ Web 2

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Regular Expressions

Regular Expressions are a powerful way to validate and format text strings that may reduce several dozens lines of code to a line or two.

A regular expression (often abbreviated as RegExp) is a pattern that is written using special symbols, which describe one or more text strings. You use regular expressions to match patterns of text, so that your script can easily recognize and manipulate text. Just like comparison operators are used to evaluate numbers in mathematic expressions, operators are used to evaluate text.

JS Regular Expression For Email

```
var re = /^\\w+([\\.-]?\\w+)*@\\w+([\\.-]?\\w+)*\\.\\w{2,3}+$/;
```

Regular expressions always begin and end with /

The ^ caret means that this expression will examine a string starting at the string's beginning

The \\w means any one character "a" through "z", "A" through "Z", "0" through "9" or underscore

The + plus means one or more of whatever the previous item was that we're checking on.

JS Regular Expression For Email

```
var re = /^\\w+([\\.-]?\\w+)*@\\w+([\\.-]?\\w+)*\\.\\w{2,3}+$/;
```

The opening (signifies a group - we can refer to anything within the parenthesis as a group later.

The bracket shows that we can have any one of the characters inside, in this example .-

The backslash is used to escape the character. (period)

The entered character may have either a period or a dash, but not both.

JS Regular Expression For Email

```
var re = /^\\w+([\\.-]?\\w+)*@\\w+([\\.-]?\\w+)*\\.\\w{2,3}+$/;
```

The question mark means that we can have zero or one of the previous item. So along with it being ok to have either a period or dash in the first part of the email (the part before the @ sign), it's ok to have neither.

The new \\w+ says that the period or dot must be followed by some other characters.

Closing parenthesis means that it's the end of a group.

JS Regular Expression For Email

```
var re = /^\\w+([\\.-]?\\w+)*@\\w+([\\.-]?\\w+)*\\.\\w{2,3}+$/;
```

The asterisk * means that we can have zero or more of the previous item, whatever was inside the parenthesis. So either "name" or "try-123-abc" are valid email prefix.

The @ character stands for itself, located between email address and domain name.

The \\w again means any one character "a" - "z", "A" - "Z", "0" - "9" or underscore

+ plus means one or more of whatever the previous item was...

JS Regular Expression For Email

```
var re = /^\\w+([\\.-]?\\w+)*@\\w+([\\.-]?\\w+)*\\.\\w{2,3}+$/;
```

Group - ([\\.-]?\\w+)* which says that period and dashes are allowed within the suffix of an email address

The final group \\w{2,3} says that we're expecting a period followed by characters, letter, number or underscore.

The numbers represent 2 or 3 of the previous item (e.g. uk or net).

+ means that the previous item, in this case the group, must exist one or more times - .net or .ox.ac.uk

JS Regular Expression for URL

```
var re = /^\\w+([\\.-]?\\w+)*@\\w+([\\.-]?\\w+)*\\.\\w{2,3})+$/;
```

The regular expression ends with \$ which signifies that the matched string must end here. This way an email that begins properly but ends with garbage is not validated.

The slash closes the regular expression and the semicolon ends the JavaScript statement.

JS Regular Expression for URL

```
var re = /^^(file|http):\\S+\\S+\\.(gif|jpg|png)
$/i;
```

Check for everything within `/^` and `$/`

Input can begin with either `file` or `http`, next characters must be `://`

`\\S+` is used to signify that one or more non-white space characters follow.

HTML5

- <http://javascript.about.com/od/hintsandtips/a/html5pattern.htm>
- Through HTML5 new form field types and attributes to existing fields, much form processing can be handled by HTML. Pattern attributes are added to all the form fields that require validation. New attributes allow a pattern to be specified for the input field and if anything is entered in the field then the value input must match the pattern or the input is considered to be invalid and must be corrected.

jQuery Form Validation Plugin

- <http://docs.jquery.com/Plugins/Validation>

References

- All Materials from Professor Ricardo Miranda
- <http://fm.hunter.cuny.edu/~mirandar/medp341/week04.html>