

CSC 4800 Python Applications Programming  
**HW/Lab #3 – Chapter 1 Exercises**  
Due: Wednesday, January 25, 2017

Chun: Core Python Applications Programming

Create Python “re” regular expressions for the following Chapter 1 exercises.  
Show that your solutions work by implementing and testing them in a Python script or program (either one containing solutions and tests for all the exercises, or several smaller examples).

Turn in printed assignment in class.

- 1) Print out of source code.
- 2) The example execution that demonstrates that your Regex solutions work.

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Exercise 1-4: Match the set of all valid Python identifiers.  
Be sure to look up the language definition in the Python documentation.

Exercise 1-5: Match a street address according to the American format (keep your regex general enough to match any number of street words or multi-word street names).

American street addresses use the format:

3307 3rd  
3307 3rd West  
1180 Bordeaux Drive  
3210 De la Cruz Boulevard

Exercise 1-6: Match simple Web domain names that begin with “www.” and end with a “.com” suffix.

Exercise 1-7: Match the set of the string representations of all Python integer literals.  
Be sure to look up the language definition in the Python documentation – there are several variations.

Exercise 1-11: Match the set of all valid e-mail addresses. (Start with a loose regex, and then try to tighten it as much as you can, yet maintain correct functionality).

Exercise 1-12: Match the set of all valid Web site addresses (URLs). (Start with a loose regex, and then try to tighten it as much as you can, yet maintain correct functionality).

Exercise 1-6: Match simple Web domain names that begin with “www.” and end with a “.com” suffix.

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```
testre(patt, 'www.google.com')
testre(patt, 'www.x.com')
testre(patt, 'www.x.y.z.com')
testre(patt, 'www.x-y-z.com')
testre(patt, 'www.x---z.com')
testre(patt, 'www.x----.com')
testre(patt, 'www.789abc.com')
testre(patt, 'www..com')
testre(patt, 'www.spu.edu')
testre(patt, 'www.spu.com')
testre(patt, 'www.abc.company')
```

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Exercise 1-11: Match the set of all valid e-mail addresses. (Start with a loose regex, and then try to tighten it as much as you can, yet maintain correct functionality).

<https://tools.ietf.org/html/rfc5322>

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```
testre(patt, 'mht@spu.edu')
testre(patt, 'a.b@c.com')
testre(patt, 'Fred.H.Flintstone@bedrock.com')
testre(patt, 'Fred.H.Flintstone@bedrock.us')
testre(patt, 'Fred.H.Flintstone@bedrock.info')
testre(patt, '"Mike"@gmail.com')
testre(patt, '"Mike"<mht@spu.edu>@spu.edu')
testre(patt, 'mht@cs.spu.edu')
testre(patt, 'mht@[72.123.45.244]')
testre(patt, '"Mike"<[72.123.45.244]>@[72.123.45.244]')
```

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