Data Bootcamp: Code Practice #1
Revised: January 15, 2016

1. Describe what does each of these expressions produces in basic Python if run in order:

```
2+5
2 + 5
5**2
x = 3
x = x/2
y = 'abc'
y = 2*y
z = x + y
```

2. What will be the value of y after running these statements in order? Why?

```
x = 3
y = x
x = 10
y
```

3. What will be the value of x after running these statements in order? Why?

```
x = 3
x = x + 3
x -= 3
x
```

4. Will this code run without errors? Why?

```
x = 3
y = '24'
y / x
```

   What about this?

```
x = 3
y = 24
y / x
```

5. Will this code run without errors? Why? If it does run, what is the value of x?

```
x = "I am a #string"  # Whoa, a string
```

6. Will this code run without errors? Why? If it does run, what is the value of `z`?

```python
x = [1, 2, 3]
y = [42, 43]
z = x + y
```

7. What does each line do below? Why?

```python
type(42)
type(42.0)
type('42.0')
type("42.0")
type("""42.0""")
type([1, 2])
type([1] + [2])
type(1 + 2)
type(print)

# warning, this one is tricky
type(float(str(int(str(1)))))
```

8. What does each line do below? Why?

```python
len([113423])
len("113423")
len(113423)  # watch out!
```

9. How would you convert x to title case (first letter of each word capitalized)? Hint: Use tab completion to find a method

```python
x = "luke, i am your father"
```

10. (challenging) Have python figure out how many words are in this string. Hint, use a method and a function.

```python
x = "Have python figure out how many words are in this string."
```

11. What python code would tell you how to write x below as a fraction of two integers? What are those integers? Hint: use a method

```python
x = 0.1234
```

12. What does the `join` method of a string do? Hint: Use spyder's IPython console and a question mark

13. (challenging) Convert x into a string. Hint: use `join`

```python
x = ['H', 'e', 'l', 'l', 'o', ',', ' ', 'W', 'o', 'r', 'l', 'd', '!']
```