COSC 101: Fall 2017
Lecture 03: Input & Debugging

Variable & Assignment Review

1. In what order are the following operators evaluated by Python?

   +  %  -  /  **  //  *

2. What is the difference between an object and a class?

3. What is the difference between a variable and a value?

4. Draw a reference diagram representing the state of each variable once the following program has been executed:

   ```python
   x = 'abc'
   y = '123'
   x = y + x
   y = 3
   z = y / 6
   ```
5. Which of the following are valid variable names?
   a. alphabet
   b. len
   c. happy
   d. while

Input
1. Provide three example situations when you would want to get input from users?

   1. 

   2. 

   3. 

2. What is the function you use to get input from the user?

3. What is the prompt string?
4. What happens to the text that the user enters?

5. If you want to use what the user enters, what do you need to do with it?

Debugging

1. The textbook recommends you “Get something working and keep improving.” What does that mean? How do you actually do that?

2. You wrote a program that involves user input. You tested it once using the user input you expect the user to type in. Are you done testing? If not, what else should you test for?

3. If your program is not doing what you want it to do, what are some clues you can use to debug it?
4. Which type of error (Syntax, Runtime, or Semantic) are each of the following error codes most likely to be? Why?

1. NameError

2. TypeError

3. ValueError

4. ParseError

Practice Problems
Evaluate the following code. If input is needed, provide your own. If output is printed, write it. If there are errors, write down the error code and type of error.

1. 
   ```python
   print('my name is Madeline')
   input('what is your name?', name)
   print(name)
   ```

2. 
   ```python
   age = input('how old are you?')
   print('wow, you don’t look a day over ’+str(int(age)-1)+’!!')
   ```
3.

```python
my_age =  #fill in your age here
if = input('are you older than ' + str(my_age) + '?')
```

4.

```python
name = input('hi, what is your name? ')
location = input('where do you live? ')
weather = int(input('what is the temperature there right now? '))
2nd_person = input('have you met ' + name + '? they’re from ' + location + ' and it’s ' + str(weather) + ' degrees there today. What is your name? ')
print('Nice to meet you', 2nd_person)
```

5.

```python
apple = (‘do you like apples? ‘)
bananas = (‘do you like bananas? ‘)
oranges = (‘do you like oranges? ‘)
print(‘apples = ‘ + apple + ‘, oranges = ‘ + oranges + ‘, bananas = ‘ + bananas)
```
Write a program to do the following:

6. Play a short mad-libs game: ask the user for at least three words and then fill them in to a sentence.