

Name:

UID:

Lab Section: 1A/1B

Score:

1. What is a list in Python? Write the code to define a list with the name *my_list* and the values *45*, *4*, *3.32*, *'abc'*, *10121*. (5 points)

2. In 25 words or less, describe the difference between *dict()* and *defaultdict()*. (5 points)

3. What would the output be for the following Python code? (10 points)

```
if 4 > 5:
    print('A')
elif 4 == 5:
    print('B')
elif 4 < 5:
    print('C')
```

4. Write code for a simple Python program. (40 points total)

- a) Write the Python code necessary to initialize the *default dictionary* collection with the name *my_dict*. (5 pts.) 1) Be sure to include the necessary import line of code to be able to use default dictionary. (5 pts.) 2) We will be using the default dictionary to count the elements of the list, so make sure to initialize the default dictionary with the proper data type for counting. (5 pts.) (15 points)

- b) Given one string separated by spaces, *food_list*, write the line of code necessary to split the string by spaces into a list of values separated by commas (like we did in lecture), and save it. **(10 points)**

```
food_list = 'spam spam spam spam spam spam eggs spam'
```

- c) Using the *my_dict* default dictionary you made in (a), write a for loop that would return the counts of *food_list* into the *my_dict* default dictionary. **(15 points)**

5. Python has a subfunction for strings that allows you to capitalize the characters within that string. The *.upper()* function accomplishes this. For example, a string such as, *x = 'abc'* could be capitalized and saved as such by running *x = x.upper()*. Given this, write a simple for loop that would iterate through a list of words (*words*) and save the all-caps versions in a new list called (*bigwords*). **(10 points)**

```
words = ['this', 'is', 'my', 'list', 'of', 'words']
```

6. What would the output for the following code be. Write it as it would actually appear in the Jupyter Notebook output. **(10 points)**

```
number = 10
for x in range(number):
    output = x**2
    print(output)
```

7. Symbols for conditionals. (*2.5 points each, 10 points total*)

a) Which symbol in Python is used to mean “equal to”?

b) Which symbol in Python is used to mean “not equal to”?

c) Which symbol in Python is used to mean “greater than or equal to”?

d) Which symbol in Python is used to find the remainder?

8. What subfunction do you use to remove the last element of a list? (*5 points*)

9. How do you find the length of a list with the name *mylist*? Make sure to write the code necessary to do this (you can show an example with *mylist* – no need to define what the values are). (*5 points*)

Extra Credit

Write a for loop that prints a list containing the even numbers from 0 to 100.
(*10 points*)