IE 555 – Programming for Analytics

Homework #2
Hand in Thursday, Feb. 16, at the beginning of class

Name: _____

- This is an individual assignment. The materials you submit must reflect <u>your own work</u>.
- If you use an online source or a book, you must cite that source.
- **Do not collaborate with other students; this is not a group/team assignment.**

The purpose of this assignment is to help you learn how Python works. Below, you will find a number of "code blocks" containing short snippets of Python code. **NOTE: Each code block below is independent from the others (i.e., variables set/defined in one block are not visible to other blocks).**

What you need to do:

1. Write your responses in the RESULT box for each problem. **These responses must be hand-written.**
2. Submit the paper copy of your answers at the beginning of class on the due date.

Assignment

- NOTE 1: Each code block below is independent from the others (i.e., variables set/defined in one block are not visible to other blocks).
- NOTE 2: The single right tic mark (') found in some of the code blocks below is obtained by using the key to the left of the Enter key. We will never use the left tic mark (the key to the left of 1) in Python.

Problem 1

```python
myvariable = 8.675309
print("myvariable = %3.2f" % (myVariable))
print("myVariable = {0:.3f}".format(myVariable))
```

RESULT

Problem 2

```python
print(range(1,8,2))
print(list(range(1,8,2)))
```

RESULT

Problem 3

```python
a = [3, 5, 9, 15, 2, 7]
print(len(a))
print(list(range(2, len(a))))
```

RESULT

Problem 4

```python
a = 12.7e14
b = float('inf')
if (a < b):
    print(a)
else:
    print('this is the greatest class ever')
```

RESULT

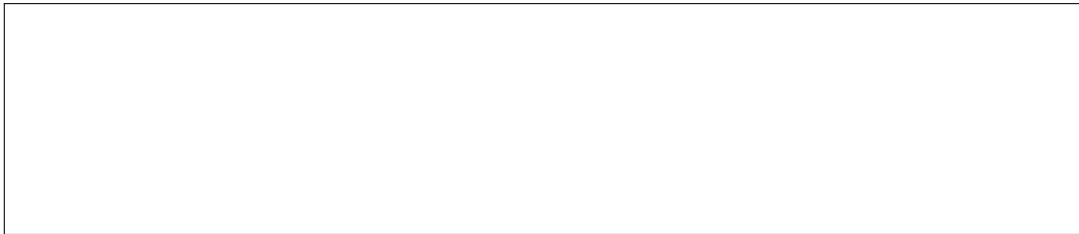## Problem 5

```python
a = 10
if (a < 20):
    print('a is less than 20')
elif (a < 30):
    print('a is also less than 30')
elif (a > 100):
    print('a is not greater than 100')
```

RESULT

Problem 6

```python
a = 1.9e99
q1 = 1/a
q2 = 1/(a-1000000)
print(q1)
print(q2)
print(q1-q2)
print(q1 == q2)
print(q1 = q2)
```

RESULT

Problem 7

```python
a = 8.45296
print(int(a))
print(a)
b = int(a)
print(a, b)
print('a = %.1f, b = %.3f' % (a, b))
print('a = ', a, 'b = ', b)
```

RESULT

Problem 8

```python
a = {1, '1', 9}
b = {2, 9, '11', 2}
print(b)
print(b - a)
```

RESULT

3

Problem 9

```
a = [1, '1', 9]
b = [2, 9, '11', 2]
print(b)
print(b - a)
```

RESULT

Problem 10

```
t = 0
s = 0
r = [2, 4, 6]
for j in r:
    t += 1
    s += j
print(t)
print(s)
```

RESULT

Problem 11

```
import math
print(pi)
```

RESULT

Problem 12

```
import math
print(math.pi)
```

RESULT

Problem 13

```python
from math import *
print(pi)
```

RESULT

Problem 14

```python
from math import *
print(math.pi)
```

RESULT

Problem 15

```python
import math as fdsa
print(fdsa.pi)
```

RESULT

Problem 16

```python
a = 5
if (a < 100)
    print('a is less than 100')
```

RESULT

Problem 17

```python
if (10 < 1)
print('10 is less than 1')
```

RESULT

Problem 18

```python
a = 5
if (a < 100):
    print('a is less than 100')
```

RESULT

Problem 19

```python
j = 1
for i in range(1,4):
    j -= 1
    print(i)
print(j)
```

RESULT

Problem 20

```
1 j = 1
2 for i in range(0,4):
3     j -= 1
4 print(i)
5 print(j)
```

RESULT

Problem 21

```
1 a = [3, 5, 9, 15, 2, 7]
2 q = a
3 q.remove(5)
4 a.append(37)
5 print(q)
6 print(a)
```

RESULT

Problem 22

```
1 a = {1: 'c', 3: 'd'}
2 print(a[1])
3 print(a[3])
4 print(a[2])
```

RESULT

7

Problem 23

```python
a = {1: 'c', 3: 'd'}
# Let's add a new entry to our dictionary, with a key
#     of 4 and a value of 'programming'
a[4] = 'programming'
print(a)
# Let's add another new entry, with a key of 'train'
#     and a value of 9
a['train'] = 9
print(a)
# Finally, let's add an entry with a key of '4'
#     and a value of 55
a['4'] = 55
print(a)
print(a[4])
print(a['4'])
print(a[4][1])
print(a[4][0:3])
print(a[4][1:3])
```

RESULT

Problem 24

```python
x = {5: 'f', \
     'car': 'Honda', \
     'number': 19}
print(x)
```

RESULT