

Note: If you want to use print statement to output without newline, please add the following statement at the beginning for python 2.X. No necessary to add this for python 3.X.

```
from __future__ import print_function
```

Then whenever you use “print”, you use: print(‘something’, end=‘’)

1. Write a Python program that prints each item and its corresponding type from the following list. (10 mins)

*Sample List:* datalist = [1452, 11.23, 1+2j, True, 'University of Maryland', (0, -1), [5, 12], {"class":'404', "section":'A'}]

2. Create a calculator that can add, subtract, multiply or divide depending upon the input from the user, using loop and conditional statements. (20 mins)

*Sample running output:*

Select operation: 1.Add 2.Subtract 3.Multiply 4.Divide

Enter choice (1/2/3/4): 3

Enter first number: 15

Enter second number: 14

15 \* 14 = 210

Do you want to do another calculation (y/n)? n (*if 'y', run your program again*)

Bye...

3. Write a Python program to construct the following pattern, using a nested loop. The longest line (n) is from user input (e.g., n=5 for the following pattern). (45 mins)

```
*
* *
* * *
* * * *
* * * * *
* * * *
* * *
* *
*
```