

MAT2440 Module 0 – An introduction to trinket.io and python.

Objectives: Learn to use some basic python commands.

1. Go to <https://trinket.io/> and create an account. This will help you create and manage your own work. Create a new trinket titled “2440 Module 0” to begin today’s activities. Type all of today’s work into this trinket.
2. Basics:
 - (a) The print command prints variables and strings to the screen.

```
print "Hello world!"
x = 3
print x
print 3+4
x = 5
print x
```

- (b) Comments let you insert text into your code that is not executed. This will help to remind you (and others) what your code does.

```
print #"Hi there!"
```

- (c) Lists help you organize and manipulate data.

```
a = [1,2,3,5]
print a
print a[0] #this picks out elements (starting with element 0)
print len(a) #len is a function that gives the length of the list
```

- (d) Mathematical functions like e^x , $\sin(x)$ have to be imported from another file. Use the following link to see what other functions are available: <https://docs.python.org/2/library/math.html>.

```
import math

print math.exp(1) #math.exp(x) is the exponential function
print math.pi #the constant 3.1415926...
print math.cos(math.pi/4)
```

3. Write code to do the following:

- (a) Print a string that contains your full name.
- (b) Print the length of the string from the previous question. (Hint: Strings are lists where each element is a single character.)
- (c) Compute and print $3 + 4/2$. Are you surprised by the result?
- (d) Compute and print $e^{-\pi}$.
- (e) Are the trigonometric functions assuming that the input is in degrees or radians?
- (f) Compute and print $2^{2/3}$. (Hint: You will need to find an appropriate function using the math library link listed above.)