**SKELETAL NOTES** (follow this template to take notes as you are working through the lab):**:**

**Learning Objectives**

What are the main learning objectives for this lab?

**Packages:**

What packages are used in this lab?

**Functions**

List all the **Python functions** learned today and their syntax:

* Type Conversion
* Operators (Don’t forget to also list the comparison operators for greater and less than used in decisions)
* Numpy functions

**Decisions**Write the general structure of a conditional statement

**Unix**

List all the **bash commands** learned today and their syntax:

**FOCUS QUESTIONS** (Make sure you can answer these questions when you are done with the lab):

* Why do we need to convert input into numbers if we want to use them for computation?
* In the converter program, conceptually, what is the difference between the algorithm and the python program?
* In the conditional statements, what is the difference between elif and else?
* Consider the two following conditional statements:  
  if(num < 5):

print("Less than 5")

elif(num < 10):

print("Less than 10")andif(num < 5):

print("Less than 5")

if(num < 10):

print("Less than 10")

Assume num is 3, how do these behave differently?

* In the floodmap program we have a ***nested loop*** (a for loop inside another for loop).  
  Consider the following simple nested loop and write down the output. Try to do it by reading the code instead of running it!  
    
  for i in range(3):

for j in range(3):

print(i,j)  
  
  
  
Think of i as the row and j as the column in a grid, what does each pair i,j correspond to?