CIS 4930 - 002: Fall 2018
Homework 1

Total Points: 50
Due: Monday, 09/17/2018, 11:59:00 PM

1 Objective

The objective for this assignment is to make sure

- You have a working setup for Python outside linprog. Most of the homeworks and class examples for this class will involve libraries that are not installed on linprog.
- You can write small to medium level programs in Python, using certain built-in data structures (no libraries).
- You can handle console input and output.

2 Program 1 - Palindromes - 25 points

Write a Python program to read in a number of strings from the user. Stop when the user enters "Done". Then check if each of the strings is a palindrome (ignore case and spaces) and throw the palindromic strings into a dictionary, where the key is a counter and the value is the string. Finally, print the dictionary. You can assume that your strings will only contain lower and uppercase letters and spaces

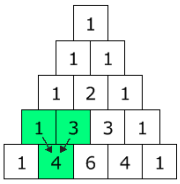
Sample Run:

```
Enter the strings:
taco Cat
sWAp paws
Who are you people
Wumbology
Rats live on no evil star
Done
The palindromes are:
{1: 'taco Cat', 2: 'sWAp paws', 3: 'Rats live on no evil star'}
```

3 Program 2 - Pascal's Triangle - 25 points

Write a Python program to print Pascal's triangle for a certain number of rows. Define a function called `printTriangle` to print the Pascal's Triangle with `row` number of rows. In main, read an integer 'N' from the user, call the `printTriangle` function to print the Pascal's Triangle.

Pascal's Triangle is an arithmetic and geometric figure first imagined by Blaise Pascal. To build the triangle, start with "1" at the top, then continue placing numbers below it in a triangular pattern. Each number is the numbers directly above it added together. It is usually written with the rows staggered like in the picture below.



You can assume the number entered will be at least 3. You can also just print the triangle like the sample run, instead of staggering the rows.

Sample Run:

```
Enter the number of rows: 8
1
1 1
1 2 1
1 3 3 1
1 4 6 4 1
1 5 10 10 5 1
1 6 15 20 15 6 1
1 7 21 35 35 21 7 1
```

4 Generic Guidelines

- Try and use Python 3 as much as possible. For this homework, version should just affect the print function.
- Please name your files `Palindromes.py` and `Pascal.py`
- Please add your name and FSUID as a comment at the top of your programs.
- We are aware that Python has libraries that would let you one line these problems. However, we are just testing your setup and your understanding of Python syntax. This code might not be very Pythonic, we're just looking for understanding of syntax.
- We are also aware that solutions to these problems exist on the internet. Please turn in your solution to the problem, and not someone else's. We will be running your submission through plagiarism detection software.
- Please turn in both the programs on the **same** submission through Canvas. Canvas will automatically download the latest submission, and the TA's will only grade that submission. You are responsible for making sure both your files are a part of that submission.
- You are also responsible for making sure your submission on Canvas contains the right files and that the files have not been corrupted in any way.