Loops and Functions...
Odds and Ends...

• Assignment #4 and #5 – due date Nov. 1st posted
  – demos separately or together
• Exercises
  / \ why so many 0
  weekly
for into a while loop example...

```python
# print the triangle below, but for any number of rows!!
# *
# ***
# ****
# *****
rows = int(input("Enter rows: "));
spaces = rows-1; # start with three spaces
stars = 1; # start with one star
x = 0;
while(x < rows):
    for x in range(rows): # for the number of rows entered by the user
        for s in range(spaces): # print number of spaces
            print(" ", end="");
        for st in range(stars): # print number of stars
            print("*", end="");
        print(" ");
        spaces-=1; # there is one less space for each row
        stars+=2; # there is 2 more stars for each row
        x+=1;
```

For all the employees in our company, calculate their gross pay based on their hours and pay rate.

What are the inputs? Outputs?

Write the algorithm for this?

Set # of employees
for all # of employees
prompt & get pay rate
prompt & get hours
calculate gross pay by pay rate * hours
print employee's gross pay for each employee.
Same as pseudocode...

```python
1 num_emp=int(input("enter num employees: "));
2 for x in range(num_emp):
3     hours=float(input("Employee #"+str(x+1)+" enter hour: "));
4     pay=float(input("enter pay: "));
5     gross=hours*pay;
6     print(gross);
```
In-class Exercise #3...

• For all the employees in our company, calculate their gross pay based on their hours and pay rate.

• What if you want to make sure they provide a valid integer for number of employees?

• How does this differ from hours and pay rate?
Make sure it is a valid int
(continue to work on this...)

```python
num_emp = input("enter num employees: ");
# all characters in string must be 0-9 digits to be positive int
for x in range(len(num_emp)):
    print(num_emp[x]);
# change to int, when you know it is valid
num_emp = int(num_emp);
for x in range(num_emp):
    hours = float(input("Employee #" + str(x+1) + " enter hour: "));
    pay = float(input("enter pay: "));
gross = hours * pay;
print(gross);
```