<u>Practice Homework</u>

When doing these problems, it can help to try and write down on paper what you think you will need for each program. Be sure to refer to the code you've been writing and saving to your jDoodle account.

1. Write a Program (doesn't need to be a function) that will take a number of INCHES as user input and then convert it to centimeters, feet, meters and print out the result like this:

   Inches: 36
   Centimeters: 99.1
   Feet: 3
   Meters: 0.914

   <u>Hints:</u> you will need a variable to save each type of measurement, you will need to do 3 different math operations on each variable to get the resultant values. You need to use the input function to get the initial user amount of inches

   Remember:
           user_input = input("give me a number")

2. Write a function that will take any number as user input and create a grid shape out of "*":

   The shape I want you to create is: a 5x3 grid of "*" with 5x3 grid of " " (spaces)

   ```
                              Enter an interger 'n'2
                              *****      *****
                              *****      *****
                              *****      *****
   ------ RESTART: /users/Ruth      *****       *****
   Enter an interger 'n'1           *****       *****
   *****                            *****       *****
   *****                      *****      *****
   *****                      *****      *****
        *****                 *****      *****|
        *****                       *****       *****
        *****                       *****       *****
   ,,, |                            *****       *****
   ```

```
Enter an interger 'n'3
*****      *****      *****
*****      *****      *****
*****      *****      *****
      *****      *****      *****
      *****      *****      *****
      *****      *****      *****
*****      *****      *****
*****      *****      *****
*****      *****      *****
      *****      *****      *****
      *****      *****      *****
      *****      *****      *****
*****      *****      *****
*****      *****      *****
*****      *****      *****
      *****      *****      *****
      *****      *****      *****
      *****      *****      *****
```

for this one you will need 3 for loops: one for loop and then two nested inside this for loop.

1.   for i in range(start,end):
2.   for a in range(start,end):
3.   (code for the first row
4.   for b in range(start,end):
5.   (code for the second row)

WHEN WRITING THIS PROGRAM: it is helpful to first try to do this code using just the outer for loop and then the for loop above that says (code for the first row) and then tryin to do the second loop.

The first inner loop (line 2 -3) handels the first row of your grid and the second inside for loop (lines 4 -5) handels the second row of squares in the grid.

Please first try to get the grid when you type 1 in the first image and then see if your code will work for the larger numbers.

You will also need the input function that you used for number 1 above.

3. Write a function that will take a string and create a new string that's backwards of the original. Then print the new string.

    Ex: "katie" is printed out as "eitak"

    Hints: You will need to start with an empty string variable and fill that empty string with letters using a for loop. The loop will need to repeat for the same amount of letters you have in the string. (for i in range(len(astring)): is how this would be written).

    To make an empty string:

new_string = ""

^variable name

To add something to this empty string use the += addition operation: new_string += "8"

Remember that += means: new_string = new_string + "8"
Remember that to access a specific letter of a string or list can be done in a for loop as:
        for i in range(len(astring)):
                if astring[i] _____: