CIS 122 Winter 2016 Project 2 Due Monday Jan. 18, Midnight

Use **Python 3** for all projects this term. Submit your Python 3 .py programs to Canvas. Submit each program as a separate file.

20 points

General Hint Look in Canvas for Files > Examples

P2_list.py 5 points

2 points

1) Create a list called **majors_list**Assign a list of 4 to 6 majors to majors_list.
Examples

CIS, Business, Chemistry, Journalism Digital Art, Math, Music

1 point

2) Use the **len** function to assign the length (number of items) in your **majors_list** list to the variable **n_majors** Print the variable **n_majors** with a suitable message.

2 points

3) Create a for loop that can access each item in the **majors_list.** The **for** loop will print each of the majors in the list.

Your output should look somewhat like this:

There are 4 majors in the list

Majors
Physics
Digital Art
CIS
Journalism

Finished

P2_listadd.py 9 points

2 points

Start with an empty name list.

2 points

Use the input(hint) function to ask a user for a name or "Quit" to stop.

3 points

While the user has not typed "Quit", use name list.append(name) to add the name to the list.

2 points

After getting all the names, print a list of each name in the list.

Check out Canvas > Modules > Week2 for a .pdf of code to do similar tasks. You'll need to adapt it to work with this list of friends.

```
Here is an example of asking for the data, then displaying the list of friends.
```

```
Type 'Quit' or name to add such as Jan Smith: Adriane
Type 'Quit' or name to add such as Jan Smith: Zoe
Type 'Quit' or name to add such as Jan Smith: Anna
Type 'Quit' or name to add such as Jan Smith: Morgan
Type 'Quit' or name to add such as Jan Smith: Sam
Type 'Quit' or name to add such as Jan Smith: Quit

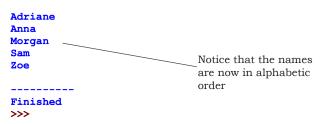
Name list has 5 names
Adriane
Zoe
Anna
Morgan
Sam

-----
Finished
>>> |
```

Bonus + 1 Sort the names before printing them.

After collecting the names, sort them before printing them. Your results will look something like this:

```
Type 'Quit' or name to add such as Jan Smith: Adriane
Type 'Quit' or name to add such as Jan Smith: Zoe
Type 'Quit' or name to add such as Jan Smith: Anna
Type 'Quit' or name to add such as Jan Smith: Morgan
Type 'Quit' or name to add such as Jan Smith: Sam
Type 'Quit' or name to add such as Jan Smith: Quit
Name list has 5 names
```



P2_Spiral.py 6 points

Never save a file called "**turtle.py**" – if you do so, turtle graphics will not work on your computer until you change the name to anything else.

2 points

Set pencolor to "red"
Set pensize to 2.
Set speed to 'fastest'
Set the variable size to 20
Set the variable angle to 360 divided by 4

The Set the variable **nudge** to **4.7** (any amount from 3 to 8 could work here)

Set the variable bump to 5

1 point

Repeat the following 60 times

2 points

Draw a square with side length **size 1 point**Turn the turtle left **nudge** degrees
Move forward **bump** units

Change **size** to be **4** units larger

Your drawing will look like this:

