day21 lists
Due: 6th period, Tuesday 9/28
        7th period, Wednesday 9/29

Today's program is a list-making program.

Make a program that uses a list variable to make an actual list of some kind. You can create a shopping list, a list of favorite foods, a list of classes, favorite books, movies, songs, etc. Be creative. See my example on the next page, **but do something different**.

In your program give a short introduction to say what kind of list we are making, then ask the user to add items to your list in a while loop, one item at a time. After each item, ask the user to add another item and keep going until they leave their entry blank. When this happens, quit the loop using a break call. Then, print the list as they entered it using a for loop. Then sort the list using the .sort() method and print it again using a different for loop. Report how many items are in the list (using the len() function.) Finally, use the .count() method to report how many times something is in the list (perhaps an entry that you think should be expected.) Check out my example on the next page, this is not as complicated as it sounds.

The biggest problem people run into with lists is with sorting. To sort a list you need to sort the list on one line and then print it on another as shown in our notes (go look at the slide deck again if you need to.) If your program prints "None" instead of your sorted list, you need to re-read this paragraph, change your code, and try again.

Here is a list of required elements (use these bullets as a checklist):
- Program is named day21 lists
- Your name and the date are in the top of the program in a comment
- The program tells the user what kind of list you are going to make and asks the user to enter items, one at a time, entering nothing when they are done to leave the loop. **Do not ask the user if they want to add another item, just keep asking them to enter things until they leave the entry blank. See my samples on the next page.**
- Use a while loop to gather information (while True:)
- Use a list to store the information. Add items to the list using the .append() method. You need to create an empty list before the while loop starts (For example: games=[] then use games.append(x) to add items if you were making a list of games.)
- Make your loop repeat until the user enters nothing, then leave the loop. Something like "Please enter another (whatever you are collecting) (enter nothing to quit): " would be great.
- Be careful not to add the empty entry to your list. Use an if statement to only append the entry if it is not empty. You can tell if an entry is empty by checking if it is equal to a pair of empty quotes.
- Once out of the loop, print the list as they entered it using a for loop, one item per line.
- Sort the list using the .sort() method and then print the sorted list, again, one item per line using a for loop.
- Print out how many items are in the list (use the len() function)
- Use the .count() method and print and explain your results. Again, see my samples on the next page for what I mean by this.

See next page for sample output.

Sample output:

```
We're collecting animal names.
Please enter an animal name (leave blank to quit): pig
Please enter an animal name (leave blank to quit): horse
Please enter an animal name (leave blank to quit): dog
Please enter an animal name (leave blank to quit): cat
Please enter an animal name (leave blank to quit): aardvark
Please enter an animal name (leave blank to quit):

Here is the list of animals unsorted:
pig
horse
dog
cat
aardvark

Here is the list sorted:
aardvark
cat
dog
horse
pig

Your animal list is 5 animals long.

The list seems good; I see it includes the best animal ever, the dog.
```

The last line says something different if myList.count("dog") indicates that the user did not enter "dog" in the list; I used an if/else statement to do this. Here's another sample run:

```
We're collecting animal names.
Please enter an animal name (leave blank to quit): cat
Please enter an animal name (leave blank to quit): pig
Please enter an animal name (leave blank to quit): horse
Please enter an animal name (leave blank to quit): ant
Please enter an animal name (leave blank to quit):

Here is the list of animals unsorted:
cat
pig
horse
ant

Here is the list sorted:
ant
cat
horse
pig

Your animal list is 4 animals long.

Your list is missing one great animal type: the dog. I added it for you.
ant
cat
horse
pig
dog
```