Learning Objectives:
- Develop simple Python programs that do manipulate strings and lists.

Directed Activities:
1. **Pen and Paper Exercise.**
   Given the initial statements:

   ```python
   s1 = "spam"
   s2 = "ni!"
   ```

   Evaluate the following expression by hand and then check them on the computer:

   b. 3 * s1 + 2 * s2
   c. s1[1]
   d. s1[1:3]
   e. s1[2] + s2[:2]
   f. s1 + s2[-1]
   g. s1.upper()

   Now type the above code into loopCompare.py to compare your results.

2 – 5. **Demonstrate your code to an instructor.**

2. Given the same initial statements as in the previous problem, show a Python expression that could construct each of the following results by performing string operations on s1 and s2.

   a. “NI"
   b. “ni!spamni!”
   c. “spam”
   d. [“sp”, ”m”]
   e. “spm”
3. Type each of the following and then explain what format options were used (e.g., left justified, fixed point, width of 5).
   a) “Looks like {1} and {0}”.format(“eggs”,”spam”)

   b) “{0:0.2f} {0:0.2f}”.format(2.3, 2.3468)

   c) “{0:7.5f} {0:7.5}”.format(2.3, 2.3468)

4. Write a program that counts the number of words in a sentence entered by the user.

   --------------------- Pause here until everyone reaches this point ---------------------
   I will guide you through the rest of the lab.

5. Write a program that takes a sentence entered by the user and prints the words in reverse order. Use the list append function to construct a list with the words in reverse order. Then use the string join function to print out the words separated by a comma.

6. Write a program that prompts the user for the amount of an investment, the annualized interest rate, and the number of years of the investment. The program will then output a nicely formatted table that tracks the value of the investment year by year. See problem number 12 on page 164 for an example output. The value after one year is given by principal*(1 + apr). Use a for loop to solve the problem.

7. Upload the files to your OAKS account.

8. If you left any file on the desktop, remove them. Log off of your computer.