AP CSP Python with CodeX **Traversing a List #1 Activity Guide**	**Name:**

Introduction

During this assignment, you will modify three CodeX programs to traverse a list, using a for loop.

Warm-Up

What do you remember about lists? List at least three things.	Answers could include: - Lists have a name, like a variable - List names are usually plural as a visual clue it is a list - Lists can hold more than one value - Separate the items in a list with a comma - A list is accessed by index - The first index of a list is 0

Examples

Use this space to take notes about the code for example #1.	Notes as needed. This example modifies the Answer_Bot program by adding a function to create a slideshow. A for loop is introduced. A specialized for loop is introduced.
What are some differences between a for loop and a specialized for loop?	These are the notes from the slide: - The for loop uses an index to access each item in the list. - The specialized for loop accesses each item and doesn't use the index in the code. - If you just want to traverse a list and don't need to know the index, the specialized for loop works great. - If you need to know the index, then the specialized for loop won't work. - You will see examples of this during the lesson.
Use this space to take notes about the code for example #2.	Notes as needed. This example is similar to the first; a function is added to create a slideshow in the Billboard program.
Use this space to take notes about the code for example #3.	Notes as needed. This example modifies the Game_Spinner program to use a for loop for list traversal and modulo division, shortening the code and using fewer variables.

Wrap-Up

Explain how to access a random element in a list.	Possible answer: You can use random.choice() to access a random element in a list: random_item = random.choice(my_list)

	You can also get a random number for the index, and use the random number to access an element:
	   index = random.randrange(len(my_list))
	   random_item = my_list[index]

Explain how to traverse a single list.	The easiest way to traverse a single list is to use a specialized for loop. You can also use a for loop with the index.
Write code to traverse a list, using a specialized for loop.	for item in my_list:

During this lesson you modified Answer_Bot, Billboard, and Game_Spinner to traverse a list using a for loop. Submit your modified programs to the teacher.