

Practice Questions for Chapter 4 – Lists and Tuples

Question 1: List Indexing and Slicing

Question: Create a list named `numbers` with the values `[5, 10, 15, 20, 25]`. Print the first three elements and the last two elements of the list.

Solution:

```
numbers = [5, 10, 15, 20, 25]
print(numbers[:3]) # Output: [5, 10, 15]
print(numbers[-2:]) # Output: [20, 25]
```

Question 2: Using List Methods

Question: Given a list `fruits = ["apple", "banana", "cherry", "date", "elderberry"]`, perform the following operations:

1. Add "fig" to the end of the list.
2. Remove "banana" from the list.
3. Insert "grape" at index 2.
4. Sort the list in alphabetical order.

Solution:

```
fruits = ["apple", "banana", "cherry", "date", "elderberry"]
fruits.append("fig")
fruits.remove("banana")
fruits.insert(2, "grape")
fruits.sort()
print(fruits) # Output: ['apple', 'cherry', 'date', 'elderberry', 'fig', 'grape']
```

Question 3: Tuple Creation and Indexing

Question: Create a tuple named `person` with the values `("Shivam", 25, "Engineer")`. Print the name and profession from the tuple.

Solution:

```
person = ("Shivam", 25, "Engineer")
print(person[0]) # Output: Shivam
print(person[2]) # Output: Engineer
```

Question 4: Count and Index Methods on Tuples

Question: Given a tuple `numbers = (4, 2, 8, 4, 7, 4, 5)`, use the tuple methods to find:

1. The number of times the number 4 appears.
2. The index of the first occurrence of the number 7.

Solution:

```
numbers = (4, 2, 8, 4, 7, 4, 5)
print(numbers.count(4)) # Output: 3
print(numbers.index(7)) # Output: 4
```

Question 5: Combining Lists and Tuples

Question: Given a list `cities = ["New York", "Los Angeles", "Chicago"]` and a tuple `new_cities = ("Houston", "Phoenix")`, combine them into a new list and print the result.

Solution:

```
cities = ["New York", "Los Angeles", "Chicago"]
new_cities = ("Houston", "Phoenix")
combined_list = cities + list(new_cities)
print(combined_list) # Output: ['New York', 'Los Angeles', 'Chicago', 'Houston', 'Phoenix']
```