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Okay, I can see questions 4 and 5 in the image you provided. Here are the Python programs for those, complete with comments and explanations:

```
# 4. Tuple Unpacking with Calculations
def calculate_box_volumes(boxes):
    """
    Given a list of tuples, where each tuple contains the dimensions (length, width, height),
    return a list of tuples where each tuple contains the original dimensions and the volume.
    """
    result = []
    for box in boxes:
        length, width, height = box # Unpack the tuple
        volume = length * width * height
        result.append((length, width, height, volume))
    return result

# Example Usage:
boxes = [(2, 3, 4), (5, 6, 7), (1, 2, 3)]
volumes = calculate_box_volumes(boxes)
print(volumes) # Output: [(2, 3, 4, 24), (5, 6, 7, 210), (1, 2, 3, 6)]

# 5. Finding Common Elements in Multiple Tuples
def find_common_elements(tuple1, tuple2, tuple3):
    """
    Takes three tuples as input and returns a new tuple containing elements that are common to all three.
    """
    set1 = set(tuple1)
    set2 = set(tuple2)
    set3 = set(tuple3)

    common_elements = set1.intersection(set2, set3)
    return tuple(common_elements)

# Example Usage:
tuple1 = (1, 2, 3, 4)
tuple2 = (3, 4, 5, 6)
tuple3 = (4, 5, 6, 7)
common = find_common_elements(tuple1, tuple2, tuple3)
print(common) # Output: (4,)
```

Explanation:

1. Tuple Unpacking with Calculations:

- The `calculate_box_volumes` function takes a list of tuples (boxes) as input.
- It iterates through each tuple in the list.
- Inside the loop, it unpacks the tuple into `length`, `width`, and `height` variables using tuple unpacking.
- It calculates the volume of the box.
- It creates a new tuple containing the original dimensions and the calculated volume and appends it to the `result` list.
- Finally, it returns the `result` list.

2. Finding Common Elements in Multiple Tuples:

- The `find_common_elements` function takes three tuples as input.
- It converts each tuple to a set.
- It uses the `intersection()` method to find the common elements among all three sets.
- Finally, it converts the resulting set back to a tuple and returns it. Using sets makes finding the intersection efficient.

These programs provide solutions for questions 4 and 5, based on the problem descriptions in the image. If you have any other questions, please let me know.

