# Module 7.2 Data Structures - List Basics: Coding Questions

## Question 1: Create a function to find the average sales from a list of daily sales amounts. Ignore any days with 0 sales.

Hint: Use a loop to sum the sales and count the days with sales. Divide the total sales by the number of days with sales for the average.

## Question 2: Write a function that takes a list of prices and a discount percentage, then returns a list of prices after the discount.

Hint: Use a loop to iterate over the list and apply the discount to each price. Store the results in a new list.

## Question 3: Develop a function that merges two sorted lists into a single sorted list.

Hint: Start with two indices, comparing elements from each list and adding the smaller one to a new list until all elements are added.

## Question 4: Implement a function to find and remove all instances of a given value from a list.

Hint: Use a loop to iterate through the list in reverse order (to avoid skipping elements) and remove elements that match the given value.

## Question 5: A finance application requires a function to categorize monthly expenses into groups like 'Rent', 'Groceries', etc., and sum the expenses in each category.

Hint: Use a dictionary to map categories to their sums. Iterate over the list of expenses, adding each amount to its category's sum.

## Question 6: Write a function that takes a list of employee names and returns a list of initials.

Hint: Split each name into parts, then loop over the parts to concatenate the first character of each part into a string of initials.

## Question 7: Create a function to filter out all negative numbers from a list of temperatures, returning only the days with positive temperatures.

Hint: Use a loop or list comprehension to create a new list with only the positive temperatures.

## Question 8: Given a list of products (as dictionaries with name and price), write a function to increase the price of all products by a given percentage.

Hint: Loop over the list, accessing each dictionary and updating the price based on the percentage increase.

## Question 9: Implement a function that takes a list of strings (words) and returns a dictionary with each unique word as a key and its frequency as the value.

Hint: Use a loop to iterate over the list, adding words to the dictionary or updating their counts.

## Question 10: Write a function that removes duplicates from a list without using set.

Hint: Create a new list. Use a loop to add elements to the new list only if they are not already present.