



Python Basic Exercise #5

Total Question: **10 Question**

Topic: **List, Set, Tuple, Dictionary**

Task 1 - List Operations

```
# Create a list of integers from 1 to 5.  
# Use a for-loop to print each number in the list.  
# Calculate and print the sum of these numbers.  
# Square each number in the list and append it to a new list.  
# Print the new list of squared numbers.
```

Task 2 - Tuple Operations

```
# Create a tuple with the names of your favorite programming languages.  
# Use a for-loop to print each language in the tuple.  
# Print the length of the tuple.  
# Check if a specific language is in the tuple and print the result.
```

Task 3 - Dictionary Operations

```
# Create a dictionary with keys as fruit names and values as their respective colors.  
# Use a for-loop to print each key-value pair in the dictionary.  
# Check if a specific fruit is in the dictionary and print its color.  
# Add a new fruit-color pair to the dictionary and print the updated dictionary.
```

Task 4 - Set Operations

```
# Create two sets with some common elements.  
# Use a for-loop to print each element in both sets.  
# Calculate and print the intersection of the two sets.  
# Add a new element to one of the sets and print the updated set.
```

Task 5 - Data Science Task with Dictionary

```
# Create a dictionary with the names of students as keys and their scores as values.  
# Use a for-loop to calculate and print the average score of all students.  
# Identify and print the student with the highest score.  
# Add a new student and score to the dictionary and print the updated dictionary.
```

Task 6 - List Operations #2

```
# Create two lists of integers of the same length.  
# Use a for-loop to calculate the element-wise sum of the two lists and store it in a new list.  
# Print the original lists and the resulting list of sums.  
# Find and print the maximum element from each list.
```

Task 7 - Tuple Operations #2

```
# Create a tuple with mixed data types (int, float, string).  
# Use a for-loop to print each element and its data type in the tuple.  
# Calculate the sum of the numeric elements in the tuple and print the result.  
# Convert each element to a string and store it in a new tuple.  
# Print the original tuple and the new tuple of string elements.
```

Task 8 - Dictionary Operations #2

```
# Create a dictionary with the names of cities as keys and their populations as values.  
# Use a for-loop to print each city and its population.  
# Identify and print the city with the largest population.  
# Remove a city from the dictionary and print the updated dictionary.
```

Task 9 - Set Operations #2

```
# Create two sets of strings.  
# Use a for-loop to print the union of the two sets.  
# Check if one set is a subset of the other and print the result.  
# Remove a specific element from one of the sets and print the updated set.
```

Task 10 - Data Science Task with Lists and Dictionaries

```
# Create a list of dictionaries, each representing a person with keys for "name" and "age."  
# Use a for-loop to print the names of people who are 25 years old or older.  
# Calculate and print the average age of all people in the list.  
# Add a new person to the list and print the updated list.
```