

Puzzle 1: Dictionary Merge

Problem: Write a function `merge_dicts(dict1, dict2)` that merges two dictionaries. If there are overlapping keys, sum their values.

Example:

python

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```
merge_dicts({'a': 1, 'b': 2}, {'b': 3, 'c': 4})  
# Output: {'a': 1, 'b': 5, 'c': 4}
```

Puzzle 2: Count Occurrences

Problem: Create a function `count_occurrences(lst)` that counts the occurrences of each element in a list and returns a dictionary with elements as keys and their counts as values.

Example:

python

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```
count_occurrences(['apple', 'banana', 'apple', 'orange',  
                  'banana', 'apple'])  
# Output: {'apple': 3, 'banana': 2, 'orange': 1}
```

Puzzle 3: Tuple Swap

Problem: Write a function `swap_tuples(tup1, tup2)` that swaps the first elements of two tuples and returns a new tuple with the swapped values.

Example:

python

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```
swap_tuples((1, 2), (3, 4))  
# Output: (3, 2, 1, 4)
```

Puzzle 4: Flatten a List of Lists

Problem: Implement a function `flatten(lst)` that flattens a list of lists into a single list.

Example:

python

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```
flatten([[1, 2, 3], [4, 5], [6]])  
# Output: [1, 2, 3, 4, 5, 6]
```

Puzzle 5: Unique Values from Dictionary

Problem: Create a function `unique_values(d)` that returns a list of unique values from a dictionary.

Example:

python

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```
unique_values({'a': 1, 'b': 2, 'c': 1, 'd': 3})  
# Output: [1, 2, 3]
```

Puzzle 6: Tuple to Dictionary

Problem: Write a function `tuples_to_dict(tuples)` that converts a list of tuples (key, value) into a dictionary.

Example:

python

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```
tuples_to_dict([('a', 1), ('b', 2), ('c', 3)])  
# Output: {'a': 1, 'b': 2, 'c': 3}
```

Puzzle 7: List of Squares

Problem: Implement a function `list_of_squares(n)` that returns a list of squares of numbers from 1 to n.

Example:

python

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```
list_of_squares(5)  
# Output: [1, 4, 9, 16, 25]
```

Puzzle 8: Dictionary Key Count

Problem: Create a function `key_count(d)` that returns the count of keys in a dictionary that have values greater than a specified threshold.

Example:

python

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```
key_count({'a': 10, 'b': 5, 'c': 15}, 8)  
# Output: 2
```

Puzzle 9: Tuple to List

Problem: Write a function `tuple_to_list(tup)` that converts a tuple into a list.

Example:

python

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```
tuple_to_list((1, 2, 3, 4))
```

```
# Output: [1, 2, 3, 4]
```

Puzzle 10: List Intersection

Problem: Implement a function `list_intersection(lst1, lst2)` that returns a list of elements that are present in both input lists.

Example:

python

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```
list_intersection([1, 2, 3], [2, 3, 4])
```

```
# Output: [2, 3]
```