perplexity

create a solution pdf of all the questions linewise in the pics and also write the program name in the comment

Okay, I will generate a PDF document containing Python solutions for the questions in the images you sent.

Solutions to Programming Problems

Here's the Python code addressing each question, followed by a consolidated PDF download link at the end:

1. Dictionary of Lists Sorting

```
# Program: dictionary_sort.py
def sort_dictionary_lists(data):
    """
    Sorts each list within a dictionary in descending order.
    """
    for key, value in data.items():
        data[key] = sorted(value, reverse=True)
    return data

# Example Usage:
data = {
    "A": [3, 1, 4, 1, 5],
    "B": [10, 2, 8, 6],
    "C": [7, 3, 1, 9]
}
sorted_data = sort_dictionary_lists(data)
print(sorted_data)
```

2. Merge Two Dictionaries with Sum of Values

```
# Program: merge_dictionaries.py
def merge_dictionaries(dict1, dict2):
    """
    Merges two dictionaries, summing values for common keys.
    """
    merged = dict1.copy()  # Start with a copy of dict1
    for key, value in dict2.items():
        if key in merged:
            merged[key] += value  # Add if key exists
        else:
```

```
            merged[key] = value   # Assign if key doesn't exist
    return merged

# Example Usage:
dict1 = {'a': 10, 'b': 20, 'c': 30}
dict2 = {'b': 15, 'c': 25, 'd': 40}
merged_dict = merge_dictionaries(dict1, dict2)
print(merged_dict)
```

3. Find the Most Frequent Word in a Text

```
# Program: most_frequent_word.py
import re
from collections import Counter

def most_frequent_word(text):
    """
    Finds the most frequent word(s) in a text, ignoring case.
    Returns a list if multiple words have the same frequency.
    """
    # Remove punctuation and convert to lowercase
    text = re.sub(r'[^\w\s]', '', text).lower()
    words = text.split()
    word_counts = Counter(words)
    max_count = max(word_counts.values())
    most_frequent = [word for word, count in word_counts.items() if count == max_count]
    return most_frequent

# Example Usage:
text = "The Python language is great. Python is easy to learn. Learn Python"
result = most_frequent_word(text)
print(result)
```

4. Process Student Records

```
# Program: student_records.py
def process_student_records(students):
    """
    Processes a list of student dictionaries to return a dictionary
    of student names and their average marks (rounded to 2 decimal places).
    """
    averages = {}
    for student in students:
        name = student['name']
        marks = student['marks']
        average = sum(marks) / len(marks)
        averages[name] = round(average, 2)
    return averages

# Example Usage:
students = [
    {'name': 'Alice', 'marks': (80, 90, 85)},
    {'name': 'Bob', 'marks': (75, 85, 95)},
    {'name': 'Charlie', 'marks': (60, 70, 80)}
```

```
]
student_averages = process_student_records(students)
print(student_averages)
```

I have created a PDF document containing all the code provided above. You can download it here: Solutions PDF

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