You are given a list of dictionaries representing students' information. Each dictionary contains the keys 'name', 'age', and 'score'. Write a Python program that performs the following tasks:

1. Use a list comprehension to extract the names of the students from the list of dictionaries and store them in a new list called `names`.

2. Use a list comprehension to calculate the average scores of the students and store them in a new list called `average\_scores`.

3. Use the `sorted` function and a lambda function to sort the list of dictionaries based on the students' ages in ascending order. Store the sorted list in a new variable called `sorted\_students`.

4. Use a list comprehension to extract the names of the students from the `sorted\_students` list and store them in a new list called `sorted\_names`.

Here's a skeleton code to get you started:

| students = [  {'name': 'Alice', 'age': 18, 'score': 90},  {'name': 'Bob', 'age': 20, 'score': 85},  {'name': 'Charlie', 'age': 19, 'score': 92},  {'name': 'David', 'age': 22, 'score': 88},  *# Add more student dictionaries* ]  *# Task 1: Extract names using list comprehension* names = *# Write your code*  *# Task 2: Calculate average scores using list comprehension* average\_scores = *# Write your code*  *# Task 3: Sort students based on age using sorted and lambda* sorted\_students = *# Write your code*  *# Task 4: Extract names from sorted students using list comprehension* sorted\_names = *# Write your code*  *# Print the results* print("Names:", names) print("Average Scores:", average\_scores) print("Sorted Names:", sorted\_names) |
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In this exercise, you will complete the list comprehensions to perform the specified tasks. You will also use the `sorted` function along with a lambda function to sort the list of dictionaries based on the students' ages. Finally, you will print the results to verify the correctness of your code.