**We have a database table called CITY\_PERIOD. It has columns:**

* CITY\_ID: The ID of the city
* NAME: The name of the city
* START\_DATE: The date from which the company starts marketting activities for the city (date is inclusive)
* END\_DATE: The date to which the company does the markettign activities for the city (date is inclusive)
* PRIORITY: The priority of the city for the given date range

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **CITY\_ID** | **NAME** | **START\_DATE** | **END\_DATE** | **PRIORITY** |
| 1 | Pune | 01-JAN-2021 | 15-JAN-2021 | 10 |
| 2 | Mumbai | 01-JAN-2021 | 15-FEB-2021 | 20 |
| 3 | Delhi | 01-MAR-2021 | 15-MAY-2021 | 30 |
| 1 | Pune | 01-FEB-2021 | 28-FEB-2021 | 5 |

You have to write a program that given the list of city periods, it should give you the list of date ranges along with the city having highest priority for that date range.

So, for the above example, output should be like:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **CITY\_ID** | **NAME** | **START\_DATE** | **END\_DATE** | **PRIORITY** |
| 2 | Mumbai | 01-JAN-2021 | 15-FEB-2021 | 20 |
| 1 | Pune | 15-FEB-2021 | 28-FEB-2021 | 5 |
| 3 | Delhi | 01-MAR-2021 | 15-MAY-2021 | 30 |

**Our Expectations (Read carefully):**

1. Write a domain class CityPeriod.
2. Write a function getPrioritizedPeriods that takes a list of CityPeriod and returns a list of CityPeriod.

public List<CityPeriod> getPrioritizedPeriods(List<CityPeriod> cityPeriods)

This function should have the business logic for prioritizing the date ranges as per city.

1. The input records can be in any order.
2. The input records can have overlapping date ranges, duplicate records, multpile records for same city with overlapping or same date ranges with same or different priorities. In short, it can have anything.
3. The output records should be sorted in order of date range.
4. The output records should not have overlapping date ranges. It should have only one record for the given date range.
5. Do not use database to store / read data.
6. Do not take input from user.
7. Hardcode the data in the program.
8. Don’t use API collection.
9. **For the date merger assignment,** not to use sorting