Restaurant Recommendation Engine

Assume that you are building a recommendation engine for your food delivery app and product team gives you the spec with following requirements.

Your algorithm considers following criterias

1. *Cuisine of the restaurant* : North Indian, Chinese, South Indian etc
2. *Cost bracket*: 1,2,3,4,5 (Increasing order from cheap to costly)
3. *Featured restaurants*: Restaurants which are officially tested by our app and recommended.
4. *New restaurants*: Restaurants which are onboarded in the last 48hrs.
5. *Rating*: Average user rating for the restaurant (from 0.0 - 5.0)

For every user that orders from the app we track following parameters:

1. Cuisine of the restaurant
2. Cost bracket

Top most cuisine will be considered as a primary cuisine of the user and next 2 are considered as secondary. Similarly, the top most cost bracket will be considered as a primary cost bracket of the user and the next 2 are considered as secondary.

We want to sort all the restaurants available in the vicinity and show top 100 unique restaurants with the following logic:

Order	Condition
1	Featured restaurants of primary cuisine and primary cost bracket. If none, then all featured restaurants of *primary cuisine, secondary cost* and *secondary cuisine, primary cost*
2	All restaurants of Primary cuisine, primary cost bracket with rating >= 4
3	All restaurants of Primary cuisine, secondary cost bracket with rating >= 4.5
4	All restaurants of secondary cuisine, primary cost bracket with rating >= 4.5
5	Top 4 newly created restaurants by rating
6	All restaurants of Primary cuisine, primary cost bracket with rating < 4
7	All restaurants of Primary cuisine, secondary cost bracket with rating < 4.5
8	All restaurants of secondary cuisine, primary cost bracket with rating < 4.5

9	All restaurants of any cuisine, any cost bracket

Given the below classes. Implement the *getRestaurantRecommendation* function in any language of your choice:

```
Enum Cuisine {
        SouthIndian, NorthIndian, Chinese etc.
}

Class Restaurant {
        private string restaurantId
        private Cuisine cuisine
        private int costBracket
        private float rating
        private boolean isRecommended
        private Date onboardedTime
}

Class CuisineTracking {
        Private string type
        Private string noOfOrders
}

Class CuisineTracking {
        Private string type
        Private string noOfOrders
}

Class CostTracking {
        Private string type
        Private string noOfOrders
}

Class User {
        private CuisineTracking[]  cuisines
        private CostTracking[] costBracket
}
```

```
public string[] getRestaurantRecommendations(User user, Restaurant[]
availableRestaurants){

    // Takes user and restaurant while returning back array of restaurant Ids in the
right sorting order

}
```

Evaluation Criteria

- Your solution will not only be evaluated on the correctness of your code but also the readability, maintainability and extensibility of your code.
- The code needs to be production quality.
- You can select any language of your choice to write code.
- You can add code in this document or you can generate the code in any tool of your choice and share the link for the same.
-