Coffee machine

[Total Duration for the assignment: 2 Hours 30 mins]

Write the **working code** to create a working coffee machine. Here are the desired features

1. It will be serving some beverages.
2. Each beverage will be made using some ingredients.
3. Assume time to prepare a beverage is the same for all cases.
4. The quantity of ingredients used for each beverage can vary. Also, the same ingredient (ex: water) can be used for multiple beverages.
5. There would be **N (N is an integer)** outlet from which beverages can be served.

For N = 2 [2 outlets in a machine]

For N = 3 [3 outlets in a machine]

6. Maximum **N** beverages can be served in **parallel.**
7. Any beverage can be served only if all the ingredients are available in terms of quantity**.**
8. There would be an indicator that would show which all ingredients are running low**.** We need some methods to refill them**.**
9. Please provide functional integration test cases for maximum coverage**.**

Example:

Consider **Chai Point** machine which serves these drinks:

1**.** ginger tea
2**.** elaichi tea
3**.** coffee
4**.** hot milk
5**.** hot water

the machine has **N** outlets for serving these drinks

Here is the composition for each drink:

1**.** ginger tea:
- hot water 50 ml
- hot milk 10 ml
- tea leaves syrup 10 ml
- ginger syrup 5 ml
- sugar syrup 10 ml

2**.** elaichi tea:
- hot water 50 ml
- hot milk 10 ml
- tea leaves syrup 10 ml
- elaichi syrup 5 ml
- sugar syrup 10 ml

3**.** coffee:
- hot water 50 ml
- hot milk 10 ml
- coffee syrup 10 ml
- sugar syrup 10 ml

4**.** hot milk:
- milk 50 ml

5**.** hot water
- water 50 ml

Note: Since there are **N** outlets, **N** people can take beverages at the same time**.**

Input Test Json :- https://www.npoint.io/docs/77e0bf528e4af43cdc10
Expected Output :- This input can have multiple outputs.

Output 1
hot_tea is prepared
hot_coffee is prepared
green_tea cannot be prepared because green_mixture is not available
black_tea cannot be prepared because item hot_water is not sufficient

Or

Output 2
hot_tea is prepared
black_tea is prepared
green_tea cannot be prepared because green_mixture is not available
hot_coffee cannot be prepared because item hot_water is not sufficient

Or

Output 3
hot_coffee is prepared
black_tea is prepared
green_tea cannot be prepared because green_mixture is not available
hot_tea cannot be prepared because item hot_water is not sufficient

Scoring Criteria / Expectation

- To simplify the problem – we will exclude the following issues from the scope:
- The solution does not have to scale out. We only need to design a solution to run on a single machine.
- This machine can be assumed to have access to large high performance and reliable file systems to store the objects in.
- This machine can be assumed to have multiple CPUs
- The solution does not have to solve storage reliability issues (assume that the underlying file system is reliable).
- Please don't expose any API, we need a functional test case.