Justmop Senior Software Engineer Assignment

About us

At Justmop.com, we're on a mission to change the way GCC books home services, starting with cleaning. Every day, we connect our customers with great cleaning service providers through our beautiful apps and website. By doing this, we make our customers' lives a little bit easier, while simultaneously helping our partners increase their earning potential.

We are operating in 6 different countries in the region; UAE, Kuwait, Bahrain, Qatar, Oman, and KSA. We are now growing rapidly and expanding our services all across GCC. We need hardworking, dedicated, and energetic team members to make it happen.

Congratulations on taking the case study stage!

We are looking for a Senior Software Engineer with a strong sense of ownership and a passion for delivering innovative solutions to help us shape the future of home services. As an engineer at Justmop.com, you will brainstorm with Product Managers, Designers, and Frontend Engineers to conceptualize and build new features for our user base from over 200 nationalities. You will work on our web and mobile platforms, implementing features across the entire stack.

Now, we kindly ask you to complete the following questions;

Question 1

Create a Restful API below by applying proper design patterns under Symfony 3.4 or greater versions. If you don't use PHP, you can choose a framework you want.

There are companies and cleaners that work a particular day and time. A cleaner is linked with a company.

1. Friday is a holiday for cleaners.
2. Cleaners working hours are between 08:00 to 22:00.
3. Cleaners can complete multiple bookings each day according to their availability.
4. A booking can have 2 or 4 hours duration only.
5. Every cleaner only works for a company. Cleaners that work in different companies cannot work together.

The booking process should be created as below;

1. Availability check: This service should return a cleaner's list and available times. A cleaner might not be available at a particular time.
2. Booking creation: Each booking should be assigned to a cleaner. After a booking is created, the cleaners' available times will be updated.
3. Booking update: The date and time of booking should be able to update.

Technical requirements:

1. The project should be written with PHP 7 or any OOP programming languages.
2. Functional and unit tests should be written.
3. API documentation should be created automatically.
4. All data should be saved in MySQL, PostgreSQL, or any relational database.

Question 2

For two strings A and B, we define the similarity of the strings to be the length of the longest prefix common to both strings. For example, the similarity of strings "abc" and "abd" is 2, while the similarity of strings "aaa" and "aaab" is 3.

Calculate the sum of similarities of a string S with each of its suffixes.

Input Format

The first line contains the number of test cases t.
Each of the next t lines contains a string to process.

Output Format

Output t lines, each containing the answer for the corresponding test case.

Sample Input

ababaa
aa

Sample Output

11
3

Explanation

For the first case, the suffixes of the string are "ababaa", "babaa", "abaa", "baa", "aa" and "a". The similarities of these strings with the string "ababaa" are 6,0,3,0,1, & 1 respectively. Thus, the answer is 6 + 0 + 3 + 0 + 1 + 1 = 11.
For the second case, the answer is 2 + 1 = 3.

Presentation Criteria:

● We expect you to complete your work until March 13 Saturday and share it with us.
● Please submit your assignment to Github and share the link with us.

If you require any further information please feel free to contact us.

Good Luck!