

## Assignment

1. Consider a scenario where you have a Phone number-based login system where you send OTP to the phone number using a third-party SMS service and login the user.

The third-party service charges 0.02 \$ for each SMS and you have allotted 100\$ as the balance for the same

You discover that every hour 100\$ is depleted and you have to keep recharging the balance despite not having huge traffic on your website/app

Is there something wrong going on here?

If yes, How will you fix it?

You can explain the answer in a textual format in points.

**ANSWER:** Yes, there's something wrong going on. As per the question:

- Third-party service charges are \$0.02 for each SMS.
- Allotted Balance is \$100.

i.e., 5,000 SMS can be generated with that \$100, and surprisingly, every hour \$100 gets depleted and we have to recharge the balance even when there's no huge traffic on our website/app.

This can be resolved by taking a step:

We need to limit the user to generate the OTP for a period of time if that user-generated OTP once. Otherwise, if the user keeps generating the OTP, then it will cause the above issue and we have to recharge it again and again.

For example: If we take an example of 5 users and they keep generating the OTP in a loop then they will use our \$100 recharge within an hour without huge traffic.

To get rid of the above situation, there are two ways we can achieve this:

1. Once OTP is generated, the OTP stays valid to that user for 10 minutes. It is the default limit set for all accounts, and in case they have any issue the Support Team can edit the time limits.
2. If a user keeps generating the OTP again and again, we can block the user after certain trails for a few hours to 24 hours.

If you see Flipkart, WhatsApp, and other companies, it does the same. It limits and blocks the OTP after a certain number of trails.

By implementing these points we can use our \$100 in a more efficient way in high as well as low traffic.