**Key things to consider while creating or consuming an API are :**

1. Validating Input sent by the user before persisting in our database. We can make use of validation API in java

2. Using strong Authentication and Authorisation, this ensures the person with right authority can access resources. We can make use Spring Security which provides built in strong security , we can add this security in our application by configuring it and can use different mechanism like OAuth2.0 with client id connect

3. Exposing only limited data which is necessary: Sometimes some apis contains password and other information that need not to be shared

4. Limiting the per user request in a day or any time span

**Theoretical Challenge**

To solve the challenge , We can covert CSV input into a structured format such as a 2D array . Then, we can loop through the cells and check if it contains a formula or a value. If it is a value we can return the value and If it is a formula we can calculate it by using a formula parser and store the result. Finally, I would write the calculated values into a new CSV file.

**2.** **What type of errors you would you check for ?**

Some errors that I would check for

Wrong cell references as per CSV file : (e.g. A5 or D1 for the given case is invalid cell reference )

Wrong syntax for the formula : “+B1"

Circular references : When like A1 = B1 and B1 = A1 , both referring to each other

**3. How might a user break your code?**

Following ways user can break our code :

By inputting invalid CSV format : not separating with commas properly

By using unsupported functions or formulas

By using incorrect cell references in formulas

By using providing invalid data types : non-numeric values in cells that are expected to contain numbers