**3) Question: what are the key things you would consider when creating/consuming an API to ensure that it is secure and reliable?**

Answer:-

Key things you would consider when creating/consuming an API to ensure that it is secure and reliable:

1. Security: Security should be first priority and build it into your APIs as they’re being developed. You can use Spring security with JWT Authentication and Authorization to secure your API.

2. Use of strong authentication and authorization: Poor or non-existent authentication and authorization are major issues with many publicly available APIs.

3. Limiting: Setting a threshold above which subsequent requests will be rejected. For example, 1000 requests per day per account can prevent denial-of-service attacks.

4. Validation of input: Without validating an input never pass it to endpoints.

5. CORS: CORS (Cross-Origin-Resource-Sharing) should be disable while creating the API if client want to access it through postman it should be accessible.

6. Remove information that’s not meant to be shared: API’s often contain keys, passwords, and other information that should be removed before they’re made publicly available.

**Theoretical Challenge:**

Suppose you have a CSV file with the data below.

A1: 5, A2: 7, A3: 9, B1: 3, B2: 8, B3: =4+5, C1: =5+A1, C2: =A2+B2, C3: =C2+B3

This can be represented in an excel sheet below:

|  |  |  |  |
| --- | --- | --- | --- |
|  | A | B | C |
| 1 | 5 | 3 | =5+A1 |
| 2 | 7 | 8 | =A2+B2 |
| 3 | 9 | =4+5 | =C2+B3 |

I want a program that will take the CSV input above and produce CSV output with the results. If it is a value, then return a value. If it is a formula then calculate the formula and return the value of that formula.

1. How will you tackle the challenge above?
2. What type of errors you would you check for?
3. How might a user break your code?

**ANSWER:**

1. >first I will use scanner class to read the input

>by using split( , ) I will separate all the cells and its values in array of string.

>I will store all the input in form of key value pair using Linked Hash Map.

>then I will check all cell is I valid or not

>then I will create methods for addition, subtraction, multiplication, division.

>by using regular expression I will

>I will pass that parameter of string as per there sign of regex.

2. I will get Number format exception. While parsing it to number And If want to read it from csv file then If I used

buffered reader and file reader then may be I get IOException if path is not matched then

3 . if some other exception occurs than this not handled in my application then my code might break.