**BLOX ASSIGNMENT**

Hi Respected ones hope you are doing great , so first let me start with my intro I am Harshit Aggarwal a graduate from Maharaja Agrasen institute of technology, Delhi (2022 Passout) after that I joined Kuliza Technologies as a SpringBoot backend Engineer worked there for almost 2 years, I was the part of core team which was directly working on our product (lend.in) core functionalities and research and development.

Q1.a.

Our product lendin is a Loan Management System which provides end to end solution and no to low code platform for modern day loans. Whole product consisted of three phases first loan initialisation, then loan calculation loan life cycle when a loan was disbursed till it closes. Then comes the loan closure with the closing documents hand over. It was built with Java SpringBoot frame work.

Q1.b.

Yes, as our product is forked from Apache Fineract then it was built over this so that was the only product I saw related to our product.

Q1.c.

**Research Phase**: Mostly for any development issue I first try to research the feature along with the business team and see where is the specific place where it can be implemented, what exception needs to be added what wshould be the perfect developer message to fix the bug if found any in the future

**Implementation phase:** then I make the required classes and entity class for the same and do the necessary changes to the part of the code where our code could affect and document the same for others references in the future also only did the changes after talking to my seniors.

**Testing phase:** Then comes the testing phase where I first note down the edge cases then test it over those test cases . Also in my one task I was supposed to write the automated test case for our product which we wrote on testNG framework so ensure no other API is weirdly working after the changes done then after that pull request is raised and it was seperately tested within my team after my testing.

**Test cases adding phase:** After it got thumbs up development was rolled out and also the test cases are wrote in our automated test cases.

Q1.d.

The interesting aspect where I took the help of stack overflow was for the task where I was supposed to implement automated test cases from the scratch I was confused which frame work we should take and also which framework is better for those test cases so for that I figured out the configuration of our system and our requirements and expectations from that system on the basis of that I went through various stack overflow threads and then finalised how it could be best implemented. Also for the edge cases of basic LMS I took help of stack overflow so that I can have the idea what will be the starting to the end of our test cases.

Q1.e.

During our upgrade of our legacy app to the newer version of java and SpringBoot there was the issue which we were facing as the most of libraries were very old and couldn't work with java newer versions at that time we took help of stack overflow to see what is the better module as per our requirement and which is able to work fine with java 17

Secondly there is the error in the system when we were doing upgrade so for that we took the help of Stack overflow and things got resolved

<https://stackoverflow.com/questions/65910112/maven-clean-install-failed-to-execute-goal-org-apache-maven-pluginsmaven-resou>

This was the error and this is how we were able to resolve it like we took help of it

Q3. Write a function to parse any valid Json string into a corresponding Object, List, or Map object. You can use C,C++, Java, Scala, Kotlin, Python, Node. Note that the integer and floating point should be arbitrary precision.

Ans.

<https://github.com/harshitaggarwal-1999/harshit-Blox-assignment/tree/master/ObjectMapper>

Q4. There is an API that one must call to get data. The trouble is it will not let you cross the limit of call - say 15 calls per minute. If you cross the limit, the system penalizes you by one additional minute of penalty where you can not make any call. Here is how the API looks

Propose a solution by which:

1. You would be able to use the API within the safe limit.

2. What happens if you are supposed to call the API 20 times per minute? Is there

any way to accomplish this?

3. If you were the API designer, what would you do to implement this behavior?

Ans.  
  
for above answers and curls and endpoints kindly refer the readme.md file and also refer to the screenshots to identify how the code it working

<https://github.com/harshitaggarwal-1999/harshit-Blox-assignment/tree/master/Rate%20Limiter%202%20APIs>

<https://github.com/harshitaggarwal-1999/harshit-Blox-assignment/tree/master/Ratelimiter>