Dear Candidate,

This is the online home assignment to assess your coding skills and problem-solving techniques. Good Luck!

**Question 1: -**

Elaborate the test steps that you will consider if you want to automate the mobile app using Appium (say for example - YouTube).

**Answer 1:** I will use the following test steps to automate the mobile app using appium

Step -1: Inspect the mobile application by using Appium inspector or UI Automator.

Step- 2: and create all the element in the POM.

Step -3: Now Create the test scripts by using the web elements from the POM.

Step -4: Test the script and make the adjustment If needed as per the challenges faced during the script development

The above-mentioned steps are the test approach but the detailed step by step instructions to setup Appium and developing the test scripts are mentioned in the **installation.docx** file present in the github project.

**Question 2:**

What will be your test server/cloud server specifications, if you are automating 4 devices in parallel – Please, Justify your answer.

**Answer 2:** I will create 4 Appium test server instances which will connect with all the 4 devices and able to execute them in Parallel.

There are two ways to create the Appium server instances. We can create the Appium instances manually and then assign each of the instance with the device in our test or we can dynamically create the Appium instance for each device during our test execution in our test script.

**Question 3:**

What is your test approach, if the login test case is failing in some instances?

**Assumption**

There is no problem in test scripts (i.e. finding a mobile element, the function is coded clean, test data is good, API services are active and test cases pass when manual testing)

**Answer 3:** It depends on the type of failure we are getting.

**Case1:** Your Automation Test may be running to fast, not providing enough time for the javascript to load which will result in failure even though all other variables are good. Adding implicit wait or pause will resolve this issue

**Case2**: Another Scenario could be that login button is still in disabled state even after providing valid credentials because in order to enable the login button we need to remove the focus from the username or password field.

**Case3:** In some cases, Tap or click doesn’t work properly even after finding the element which will result in a failure.Using Action class or JavascriptExecutor may resolve this issue

**Case4:** Maybe the codewas written for some other device, but it needs few adjustments for the current device. Sometimes we see different results in different devices even for the same scripts and test data.

**Question 4:**

Develop test scripts for the following scenario (preferably using Java, Appium & TestNG) and push your code to a public git repository with detailed instructions to set up an environment and be able to run your code.

This test mainly focuses on Coding Standards using POM, knowledge of Appium commands, the structure of test framework and git knowledge,

You can download Saavn (mobile app) Apk file from this link: <https://apkpure.com/saavn-music-radio/com.saavn.android>

**Recommendations**

* Validate each screen that is being navigated
* Close any advertisements that pop-up between any test steps

**Scenario 1 (Onboarding)**

1. Launch the App
2. Validate the App is launched and landing Screen is displayed
3. Unselect “Hindi” in the landing Screen
4. Scroll down to the “Other Languages” List to select “Assamese” language
5. Validate the Number of Selected Language in the footer bar of the landing Screen
6. Click on the “Done” button
7. Close any Advertisements that comes in between
8. Validate that the Home Screen is displayed

**Scenario 2 (Play Song – Editorial Picks)**

1. In the Home Screen, perform a Vertical Scroll to the End of Screen
2. Under, “Editorial Picks” section; perform a horizontal scroll to reach the end of the list
3. Select the last song in the list
4. Validate the Play Song Screen
5. Click on the Play button
6. Validate the Song is playing
7. Navigate back to the Home Screen
8. Validate that the Home Screen is displayed
9. Close the App

**Bonus Point Question:**

Try to write an algorithm for reversing a string (Actual code is not required). Justify your algorithm with time and space complexity.

Input String: TouchTunes

Output String: senuThcuoT

**Answer:**

public class StringReversalAlgorithm   
{   
    public static void main(String[] args)   
    {   
        String inputString = "touchtunes";   
    
          
        // save the inputString in bytes  
        byte [] inputStringByte = inputString.getBytes();   
          
        //create another bytes with same size as of the inputstring to store the results  
        byte [] byteResult =  new byte [inputStringByte.length];   
    
        // store the results in the result byte by looping through all the character in the reverse order  
        for (int i = 0; i < inputStringByte.length; i++)   
            byteResult[i] =    
             inputStringByte[inputStringByte.length-i-1];   
    
        System.out.print(new String(byteResult));    
    }   
}