Selenium Java: Annual Fees Analytics App

In this challenge, use the selenium web driver, *HtmlUnitDriver*, which uses *HtmlUnit* headless browser. This eliminates the need to set up browsers such as Firefox, Chrome, or web driver executables like FirefoxDriver, or ChromeDriver.

XYZ University did an analysis of the fee payment pain points of the guardians. The biggest challenge they found was total fee payment at once. To ease the guardians and help them, the University allowed the guardians to pay the fee in any manner. It means the guardians can pay the fee at once or in monthly installments or on a quarterly basis or in any other manner suitable for them. This feature showed a positive response from the guardians.

You are given a URL for an Annual Fee Analytics application. The application shows the students' data in a table which includes different parameters:

1. Student Name
2. Student Id
3. Department Id
4. Annual Fee

The annual fee column will have a hyperlink against each student id which will redirect to the payments page of the respective student. This page will show the different payments made along that student id throughout the year.

Your task is to verify that each students' Annual Fee Payment is equivalent to the summation of the different payments made against student id. In case, there is a mismatch between the two values, you need to return that student id.

The class AnnualFeeAnalytics has a single method:

List<String> findStudentsIdWithPendingFee(WebDriver driver, String studentPageUrl):

- Browse the studentPageUrl and perform analysis on each student's Annual Fee column.
- The source code structure of studentPageUrl is like website/studentsPage.html.
- The Annual Fee column contains the hyperlinks against each student which opens another page (payments page) that contains a table of the student's payments data.
- The source code structure of invoice data is like website/paymentsPage.html
- For each student, do the summation of the "Paid Amount" column for their installments/payments.

- Return the student's id whose annual fee value does not match with the summation of the payment of amounts in the payment page against his/her student id.

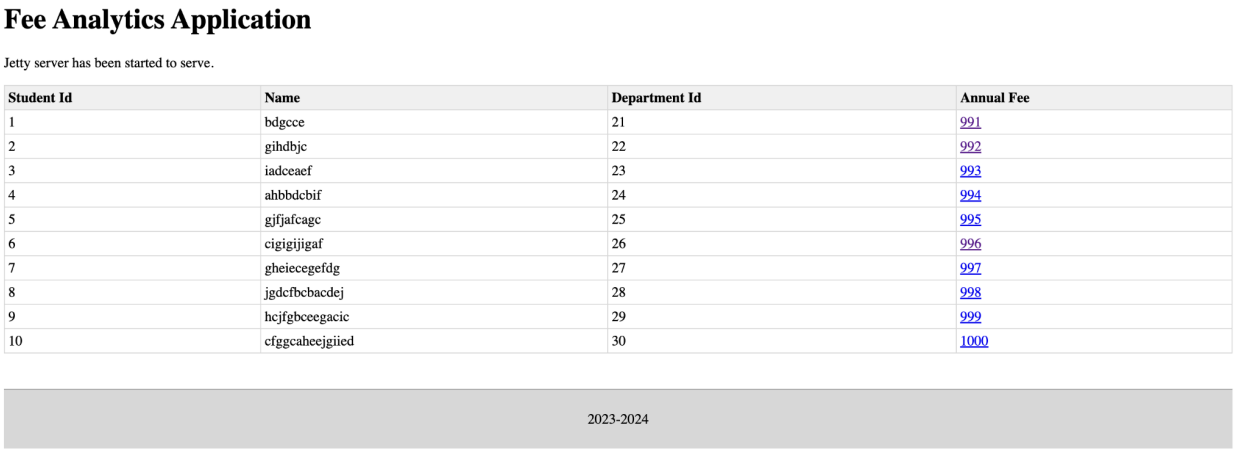
studentPageUrl is the URL of the student's aggregated data.

The payments page contains the table with the parameters:

1. Student Id
2. Receipt Id
3. Paid Amount

Use the given tests while debugging/checking implementation. The test's setup method bootstraps an embedded jetty server and deploys a small web app that displays a randomly generated website. The example website is given in the website folder, which displays the structure of the search and result pages, but the data displayed will change on every refresh.

The students page:



Fee Analytics Application

Jetty server has been started to serve.

Student Id	Name	Department Id	Annual Fee
1	bdgcce	21	991
2	gihdbjc	22	992
3	iadceaef	23	993
4	ahbbdcbif	24	994
5	gjfjafcagc	25	995
6	cigigijigaf	26	996
7	gheiecegefdg	27	997
8	jgdcfbcbacdej	28	998
9	hcjfgbceegacic	29	999
10	cfggcaheejgiied	30	1000

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The payments page:

Fee Analytics Application

Jetty server has been started to serve.

Student Id	Receipt ID	Paid Amount
9	1	111
9	2	111
9	3	111
9	4	111
9	5	111
9	6	111
9	7	111
9	8	111
9	9	111

2023-2024

Complete the implementation of AnnualFeeAnalytics to pass the unit tests.

Software Instructions

The question(s) requires **Java Development Kit 17**.

- Install JDK 11 on MacOS
- Install JDK 11 on Windows
- Install JDK 11 on Linux
- Install Maven

Useful Commands

Use the following commands to work with this project

Run

mvn clean package && java -jar target/selenium-java-healthcare-analytics-1.0.jar

Test

mvn clean test

Install

mvn clean install