1. **Java Classes and Methods**

**Java\_Executor Class:**

**Purpose:** Contains reusable JavaScript execution methods to interact with web elements.

**Methods:**

1. scrollIntoView(WebDriver driver, WebElement element):

* Scrolls the web page to bring the specified element into view.
* Uses JavaScript to adjust the scroll position so that the element is visible.

1. scrollBy(WebDriver driver, int x, int y):

* Scrolls the web page by the specified x and y offsets.
* Useful for fine-tuning the view or handling elements that are not immediately visible.

**FitPeo Class:**

**Purpose:** Contains test automation code that interacts with the FitPeo website.

**Methods:**

1. browserLaunch():

* Sets up and initializes the WebDriver (ChromeDriver) and opens the FitPeo website.
* Configures the WebDriver to maximize the browser window and set an implicit wait.

1. calPage ():

* Navigates to the revenue calculator page.
* Uses Java\_Executor methods to scroll to and interact with sliders.
* Uses Actions class to perform click-and-hold operations on the slider.
* Retrieves and updates slider values in a text box.

1. selectCPT1(), selectCPT2(), selectCPT3():

* Interact with various elements (checkboxes) on the page.
* Scrolls to the checkboxes and selects them based on their positions.

1. **Selenium WebDriver**

**WebDriver :** An interface for interacting with web browsers. In my project, I’m using ChromeDriver to control Google Chrome.

**Key Features:**

* Element Interaction: Find elements using locators (e.g., XPath, class names) and perform actions like click, sendKeys, etc.
* Implicit Waits: Set up a wait time for elements to appear on the page before performing actions.

**3. JavaScript Executor**

**Purpose:** Allows execution of JavaScript code directly in the browser.

**Usage:**

* Scrolling: Use JavaScript to scroll elements into view or adjust the scroll position.
* Fetching Attributes: Retrieve values from web elements that might not be accessible directly through Selenium's methods.

**4. Actions Class**

**Purpose:** Provides advanced user interactions like drag-and-drop, mouse movements, and key presses.

**Usage:**

* clickAndHold(), moveByOffset(), release(): Used to simulate dragging a slider to a specific position.

**5. Error Handling**

* Try-Catch Blocks: Catch exceptions and print error messages to handle any issues that occur during script execution. This helps in identifying and debugging problems in the script.

**6.XPath and Element Locators**

* **XPath:** Used to locate elements based on their position or attributes within the HTML structure. In my code, XPath is used to interact with sliders, checkboxes, and input fields.