Answer 1:

import java.util.Scanner;

public class PF\_Calculator {

private double monthlyIncome;

private int ageOfEmp;

private double totalPF;

public void calculateContributions() {

double employeeContribution;

double employerContribution;

if (ageOfEmp <= 50) {

employeeContribution = monthlyIncome \* 0.15;

employerContribution = monthlyIncome \* 0.125;

} else if (ageOfEmp > 50 && ageOfEmp <= 60) {

employeeContribution = monthlyIncome \* 0.125;

employerContribution = monthlyIncome \* 0.1;

} else {

employeeContribution = monthlyIncome \* 0.1;

employerContribution = monthlyIncome \* 0.075;

}

totalPF = employeeContribution + employerContribution;

}

public void printTotalPF() {

System.out.println("Total PF: " + totalPF);

}

public static void main(String[] args) {

Scanner scanner = new Scanner(System.in);

System.out.print("Enter Monthly Income: ");

double monthlyIncome = scanner.nextDouble();

System.out.print("Enter Age of Employee: ");

int ageOfEmp = scanner.nextInt();

PF\_Calculator pfCalculator = new PF\_Calculator();

pfCalculator.monthlyIncome = monthlyIncome;

pfCalculator.ageOfEmp = ageOfEmp;

pfCalculator.calculateContributions();

pfCalculator.printTotalPF();

scanner.close();

}

}

Answer 2:

class CountVowelsPercentage:

def \_\_init\_\_(self):

self.input\_string = ""

def read\_input(self):

self.input\_string = input("Enter a string: ")

def count\_vowels(self):

vowel\_count = 0

for char in self.input\_string:

if char.lower() in "aeiou":

vowel\_count += 1

return vowel\_count

def calculate\_percentage(self, vowel\_count):

total\_chars = len(self.input\_string)

percentage = (vowel\_count / total\_chars) \* 100

return round(percentage, 2)

def run(self):

self.read\_input()

vowel\_count = self.count\_vowels()

percentage = self.calculate\_percentage(vowel\_count)

print("Percentage of vowels: {}%".format(percentage))

count\_vowels\_percentage = CountVowelsPercentage()

count\_vowels\_percentage.run()

Answer 3:

import org.openqa.selenium.By;

import org.openqa.selenium.WebDriver;

import org.openqa.selenium.WebElement;

import org.openqa.selenium.chrome.ChromeDriver;

public class VerifyLoginErrorMessage {

public static void main(String[] args) {

System.setProperty("webdriver.chrome.driver", "D:\\ChromeDriver\\chromedriver.exe");

WebDriver driver = new ChromeDriver();

driver.get("https://www.freecrm.com/");

WebElement loginButton = driver.findElement(By.xpath("//a[contains(text(),'Log In')]"));

loginButton.click();

WebElement usernameField = driver.findElement(By.name("email"));

usernameField.sendKeys("invalidusername");

WebElement passwordField = driver.findElement(By.name("password"));

passwordField.sendKeys("invalidpassword");

WebElement loginButton2 = driver.findElement(By.xpath("//div[@class='ui fluid large blue submit button']"));

loginButton2.click();

WebElement errorMessage = driver.findElement(By.xpath("//div[@class='ui negative message']/div[@class='header']"));

if (errorMessage.isDisplayed()) {

System.out.println("Invalid error message is displayed.");

} else {

System.out.println("Invalid error message is not displayed.");

}

driver.quit();

}

}

Answer 4:

import org.openqa.selenium.By;

import org.openqa.selenium.WebDriver;

import org.openqa.selenium.WebElement;

import org.openqa.selenium.chrome.ChromeDriver;

public class VerifySignupErrorMessage {

public static void main(String[] args) {

System.setProperty("webdriver.chrome.driver", "D:\\ChromeDriver\\chromedriver.exe");

WebDriver driver = new ChromeDriver();

driver.get("https://www.freecrm.com/");

WebElement loginButton = driver.findElement(By.xpath("//a[contains(text(),'Log In')]"));

loginButton.click();

WebElement signupButton = driver.findElement(By.xpath("//a[contains(text(),'Sign Up')]"));

signupButton.click();

WebElement emailField = driver.findElement(By.name("email"));

emailField.sendKeys("dummyemail@example.com");

WebElement robotCheckbox = driver.findElement(By.xpath("//div[@class='recaptcha-checkbox-border']"));

robotCheckbox.click();

WebElement signupButton2 = driver.findElement(By.xpath("//div[@class='ui fluid large blue submit button']"));

signupButton2.click();

WebElement errorMessage = driver.findElement(By.xpath("//div[@class='ui negative message']/div[@class='header']"));

if (errorMessage.isDisplayed()) {

System.out.println("Error message is displayed: " + errorMessage.getText());

} else {

System.out.println("Error message is not displayed.");

}

driver.quit();

}

}

--------------------------------------------------------------------------------------------------------------------------------------Answer 5:

Program 1:

import org.openqa.selenium.By;

import org.openqa.selenium.WebDriver;

import org.openqa.selenium.WebElement;

import org.openqa.selenium.chrome.ChromeDriver;

import org.openqa.selenium.firefox.FirefoxDriver;

import org.testng.Assert;

import org.testng.annotations.AfterMethod;

import org.testng.annotations.BeforeMethod;

import org.testng.annotations.Parameters;

import org.testng.annotations.Test;

public class VerifyLoginErrorMessage {

private WebDriver driver;

@BeforeMethod

@Parameters("browser")

public void setup(String browser) {

if (browser.equalsIgnoreCase("chrome")) {

System.setProperty("webdriver.chrome.driver", " D:\\ChromeDriver\\chromedriver.exe ");

driver = new ChromeDriver();

} else if (browser.equalsIgnoreCase("firefox")) {

System.setProperty("webdriver.gecko.driver", " D:\\FirefoxDriver\\firefoxdriver.exe ");

driver = new FirefoxDriver();

}

driver.get("https://www.freecrm.com/");

}

@Test

public void verifyInvalidLoginErrorMessage() {

WebElement loginButton = driver.findElement(By.xpath("//a[contains(text(),'Log In')]"));

loginButton.click();

WebElement usernameField = driver.findElement(By.name("email"));

usernameField.sendKeys("invalidusername");

WebElement passwordField = driver.findElement(By.name("password"));

passwordField.sendKeys("invalidpassword");

WebElement loginButton2 = driver.findElement(By.xpath("//div[@class='ui fluid large blue submit button']"));

loginButton2.click();

WebElement errorMessage = driver.findElement(By.xpath("//div[@class='ui negative message']/div[@class='header']"));

Assert.assertTrue(errorMessage.isDisplayed(), "Invalid error message is not displayed.");

}

@AfterMethod

public void teardown() {

driver.quit();

}

}

TestNG.xml file:

<!DOCTYPE suite SYSTEM "http://testng.org/testng-1.0.dtd">

<suite name="Test Suite">

<test name="Verify Login Error Message">

<parameter name="browser" value="chrome" />

<classes>

<class name="com.example.VerifyLoginErrorMessage" />

</classes>

</test>

<test name="Verify Login Error Message - Firefox">

<parameter name="browser" value="firefox" />

<classes>

<class name="com.example.VerifyLoginErrorMessage" />

</classes>

</test>

</suite>

Program 2:

import org.openqa.selenium.By;

import org.openqa.selenium.WebDriver;

import org.openqa.selenium.WebElement;

import org.openqa.selenium.chrome.ChromeDriver;

import org.openqa.selenium.firefox.FirefoxDriver;

import org.testng.Assert;

import org.testng.annotations.AfterMethod;

import org.testng.annotations.BeforeMethod;

import org.testng.annotations.Parameters;

import org.testng.annotations.Test;

public class VerifySignupErrorMessage {

private WebDriver driver;

@BeforeMethod

@Parameters("browser")

public void setup(String browser) {

if (browser.equalsIgnoreCase("chrome")) {

System.setProperty("webdriver.chrome.driver", " D:\\ChromeDriver\\chromedriver.exe ");

driver = new ChromeDriver();

} else if (browser.equalsIgnoreCase("firefox")) {

System.setProperty("webdriver.gecko.driver", "" D:\\FirefoxDriver\\firefoxdriver.exe ");

driver = new FirefoxDriver();

}

driver.get("https://www.freecrm.com/");

}

@Test

public void verifyErrorMessage() {

WebElement loginButton = driver.findElement(By.xpath("//a[contains(text(),'Log In')]"));

loginButton.click();

WebElement signupButton = driver.findElement(By.xpath("//a[contains(text(),'Sign Up')]"));

signupButton.click();

WebElement emailField = driver.findElement(By.name("email"));

emailField.sendKeys("dummyemail@example.com");

WebElement robotCheckbox = driver.findElement(By.xpath("//div[@class='recaptcha-checkbox-border']"));

robotCheckbox.click();

WebElement signupButton2 = driver.findElement(By.xpath("//div[@class='ui fluid large blue submit button']"));

signupButton2.click();

WebElement errorMessage = driver.findElement(By.xpath("//div[@class='ui negative message']/div[@class='header']"));

Assert.assertTrue(errorMessage.isDisplayed(), "Error message is not displayed.");

}

@AfterMethod

public void teardown() {

driver.quit();

}

}

TestNG.xml file:

<!DOCTYPE suite SYSTEM "http://testng.org/testng-1.0.dtd">

<suite name="Test Suite">

<test name="Verify Signup Error Message - Chrome">

<parameter name="browser" value="chrome" />

<classes>

<class name="com.example.VerifySignupErrorMessage" />

</classes>

</test>

<test name="Verify Signup Error Message - Firefox">

<parameter name="browser" value="firefox" />

<classes>

<class name="com.example.VerifySignupErrorMessage" />

</classes>

</test>

</suite>

--------------------------------------------------------------------------------------------------------------------------------------

Answer 10:

**test\_login.py**

import pytest

from selenium import webdriver

from selenium.webdriver.common.by import By

from selenium.webdriver.support.ui import WebDriverWait

from selenium.webdriver.support import expected\_conditions as EC

def test\_login\_invalid\_credentials():

driver = webdriver.Chrome()

driver.get("https://www.freecrm.com/")

login\_button = driver.find\_element(By.XPATH, "//a[contains(text(),'Log In')]")

login\_button.click()

username\_field = driver.find\_element(By.NAME, "email")

username\_field.send\_keys("invalidusername")

password\_field = driver.find\_element(By.NAME, "password")

password\_field.send\_keys("invalidpassword")

login\_button2 = driver.find\_element(By.XPATH, "//div[@class='ui fluid large blue submit button']")

login\_button2.click()

error\_message = WebDriverWait(driver, 10).until(

EC.visibility\_of\_element\_located((By.XPATH, "//div[@class='ui negative message']/div[@class='header']"))

)

assert error\_message.is\_displayed(), "Invalid error message is not displayed."

driver.quit()

Answer 8:

Positive Test Case (Status Code 200 - OK)

Negative Test Case (Status Code 404 - Not Found)